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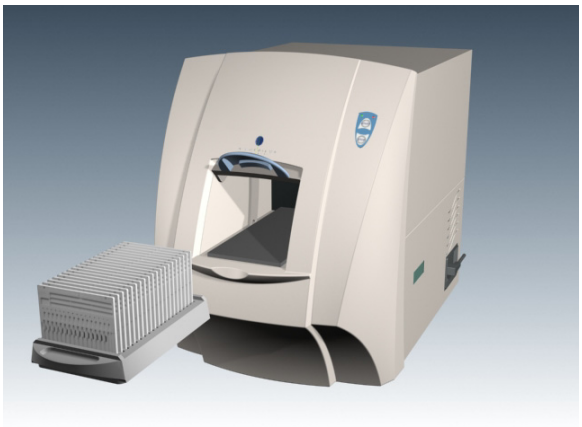
TEMPO ®

Reading Station

User's Manual



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The list of revisions below summarizes replacements or additional pages in your User's Manual.

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B	06/2004	***TEMPO*** ® software development.	All

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DANGER! ***Some of the TEMPO® tests contain products of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious, and handled observing the usual safety precautions (do not ingest or inhale).***

All specimens and inoculated products should be considered infectious and handled appropriately. Aseptic technique and usual precautions for handling the bacterial group studied should be observed throughout this procedure.

Qualified laboratory personnel should use acceptable procedures for biohazardous material.

Do not use TEMPO® tests past the expiration date indicated on the labels.

It is essential to read the package insert before using the tests.

IMPORTANT! ***BCI Net is an optional software program independant of TEMPO®. It is used to connect TEMPO® to the laboratory information system.***
Although they are mentioned in this manual, the BCI Net software and User's Manual are not yet available.

TEMPO® is not yet available in multi-station mode.

IMPORTANT! ***The user is advised to read and understand all instructions in the manual to be able to derive the best performance from the TEMPO® system.***

The configuration that you have purchased is adapted to the legislation and standards of the different countries it will be sent to.
For this reason, it may differ from the one presented in this document. However, it will not prevent the TEMPO® system from operating correctly.

The TEMPO® and its components have been controlled and meet the requirements and standards mentioned in the certificate supplied with them. They have been designed to provide a good level of protection against harmful interference when operated in a residential, commercial or «light industrial» environment.

However, the TEMPO® instruments may cause interference if not installed in accordance with the instruction manual.

bioMérieux® SA recommends that you observe the different warnings inscribed on the TEMPO® instruments themselves and indicated in the documentation supplied.

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1 How to use this manual

Introduction

This manual deals with how to use the ***TEMPO*** ® Reading Station.

The ***TEMPO*** ® Preparation Station and the complete ***TEMPO*** ® configuration are described in the "***TEMPO*** ® Preparation Station User's Manual".

CAUTION! ***You are advised to read and understand all the instructions in this manual to be able to derive the best performance from the TEMPO*** ® ***system.***

This chapter covers the following topics:

- Finding topics and procedures 1-2
- Typographic conventions 1-3
- Graphic symbols 1-4
- Warnings 1-7

Finding topics and procedures

The manual is divided into 14 chapters.

Table of contents The main table of contents is located on pages I-1 to I-7 It lists each chapter and the procedures and/or topics contained in the manual.

List of figures Pages II-1 to II-3 contain a list of the figures in this manual.

Graphic symbols The standard symbols used for our instruments, and their meanings, can be found in the list on pages 1-4 to 1-6.

Warnings The warnings should be read carefully before using the ***TEMPO*** ® system in any way.

Chapter contents Each chapter starts with a specific table of contents showing the page where the different sub-chapters begin.

Page headers and page footers Apart from the first page of every chapter, each page of this manual includes a page header and a footer.

Each page header includes the chapter title and the title of a procedure or its corresponding description.

The footers contain the title of the manual, the name of the product and a page number.

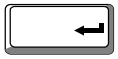
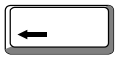
Appendices The appendices are located in Chapter 12. They provide additional information on how to use the ***TEMPO*** ® system.

Glossary The glossary is located in Chapter 13. It gives the definition of the main technical terms used in the manual.

Index The index is located in Chapter 14 at the back of the manual. It consists of a list of words, expressions etc. included in the manual and the pages on which they can be found.

Typographic conventions

Following are the typographic conventions used in this manual to aid in your understanding of the procedures.

• Type	A bullet point is used to denote an action to be performed.
	Can also be **<Return>, <Enter>** or **<Entrée>** depending on the type of keyboard.
	Can also be **<Tab>** or **<Tabulation>** depending on the type of keyboard
	Can also be **<BACKSPACE>** depending on the type of keyboard.
<Ctrl>	The **<Ctrl>** key is always associated with another key to obtain shortcuts. Both keys should be pressed simultaneously. Example: **<Ctrl>** + **V** (Paste)
<Alt>	Using the **<Alt>** key is the same as using the **<Ctrl> key**. Example: **<Alt>** + **<F4>** (close the current application)
<Suppr>	Can also be **<Del>** depending on the type of keyboard.
<Echap>	Can also be **<Esc>** depending on the type of keyboard.
<Caps lock>	This key enables you to change from lower case to upper case characters.
<F1>, <F2> … <F12>	These are function keys which can be used alone or with other keys for commands.

Graphic symbols

V.A 09/2003

The standard symbols used for our systems and their meanings can be found below:

Direct current

Alternating current

Both direct and alternating current

Three-phase alternating current

Earth (ground) TERMINAL

PROTECTIVE CONDUCTOR TERMINAL

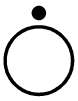
Frame or chassis TERMINAL

Equipotentiality

ON (power supply)

OFF (power supply)

ON" (only for a component of the system equipment)



"OFF" (only for a component of the system equipment)

Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION (equivalent to Class II of IEC 536)

Caution !: risk of electric shock
(background color: yellow, symbol and outline: black)

Caution !: see accompanying documents
(background color: yellow, symbol and outline: black)

Caution !: high temperature

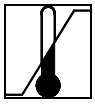
Caution !: potential pinch point

Caution !: potential biohazard

Consult instructions for use

LOT Batch code

REF Catalogue number

	Temperature limitation
EC REP	Authorised representative
	Keep dry
	Manufactured by
	Date of manufacture
IVD	In vitro diagnostic medical device
SN	Serial number
	Keep away from magnetic field

Warnings

Different types of warnings are used throughout the manual:

- for safety reasons (***DANGER!***),
- to ensure that the instruments are maintained in good working condition (***CAUTION!***),
- for regulatory reasons (***WARNING!***) or to allow optimum use of the instruments (***IMPORTANT!***).

2 Description

Introduction

This chapter covers the following topics:

- Functional description / Aim 2-2
- Composition of the ***TEMPO*** ® Reading Station 2-3
- General characteristics 2-9
- Operating principles 2-13

Functional description / Aim

Refer to the ***TEMPO*** ® Preparation Station User's Manual.

Composition of the *TEMPO* ® Reading Station

The main components of the ***TEMPO*** ® Reading Station are:

- a computer system **(1)** with a barcode reader **(2)**,
- a ***TEMPO*** ® **Reader (3)**,
- twelve incubation/reading racks **(4)**.

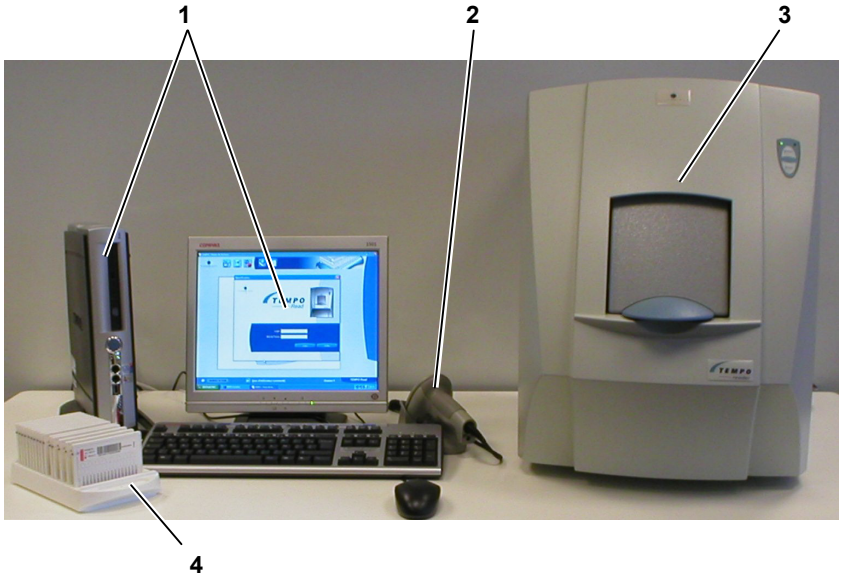


Figure 2-1: Composition of the Reading Station

Equipment

TEMPO ® Reader

The ***TEMPO*** ® **Reader** is composed of:

- an LCD monitor **(1)** (for displaying messages),
- a cover **(2)**,
- a front and back panel **(3)**,
- a control panel with buttons and indicator lights **(4)**,
- a maintenance hatch **(5)**,
- a tilting door **(6)** with a handle **(7)**,
- an optical module (camera, electronic cards…) **(8)**,
- an electric power supply **(9)** including:
  - an ON/OFF switch,
  - a fuse block,
  - a socket for connecting the ***TEMPO*** ® **Reader** to the power supply,
- a metal frame **(10)**,
- an incubation/reading rack holder **(11)**,
- an ultraviolet light module (not indicated),
- various mechanical, electronic and other components.

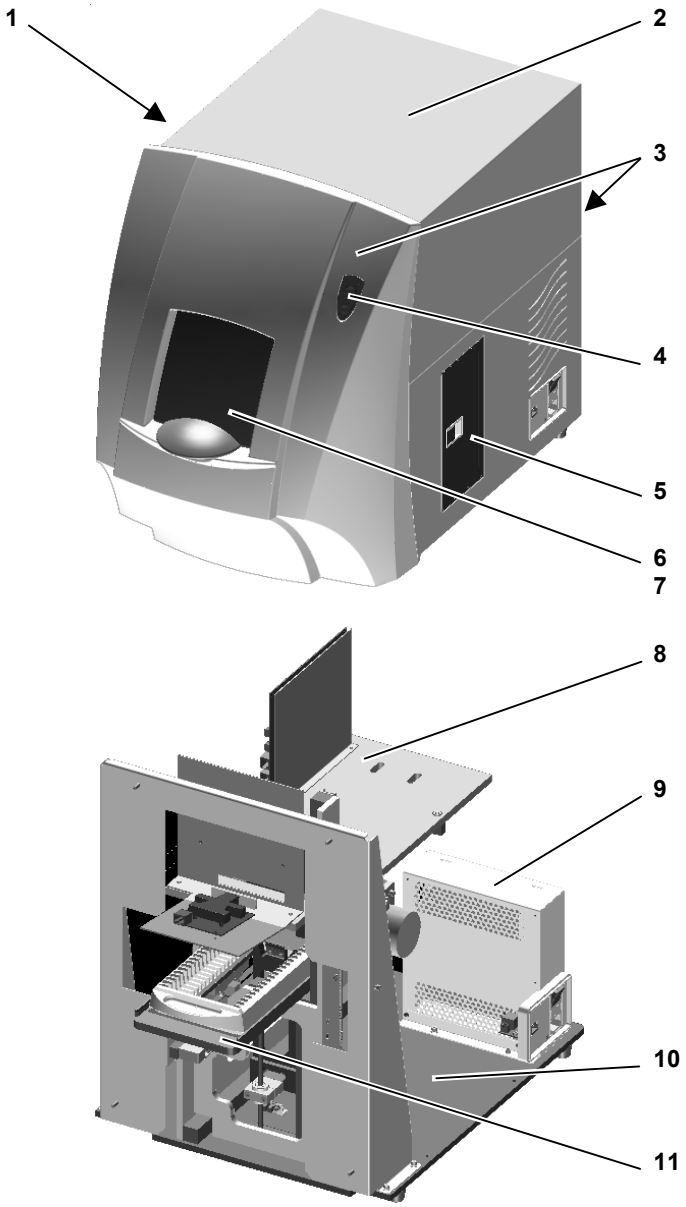


Figure 2-2: ***TEMPO ® Reader***

Hardware instruments

The ***TEMPO*** ® Reading Station computer system consists of:

- The ***TEMPO*** ® **Read** software which enables management of cards during incubation, reading of cards and management of test results (see Chapter 5 Using the ***TEMPO*** ® system).
- An administration software program (***TEMPO*** ® **Admin**) which is used to configure the ***TEMPO*** ® computer system (see Chapter 8 - Configuring the ***TEMPO*** ® software)
- A software program (***TEMPO*** ® **Check**) for checking the ***TEMPO*** ® **Reader** (see Chapter 10 - ***TEMPO*** ® **Check**).
- Specific applications for backing up and archiving data (see Chapter 6 - Export, backup, archiving and audit trail browsing).
- a flat color monitor **(1)**,
- a central processing unit **(2)**,
- a mouse-type pointing device **(5)**,
- a keyboard **(6)**,
- a barcode reader **(3)** with a holder (not illustrated).
- an Ethernet router **(7)**,
- a printer **(4)**.

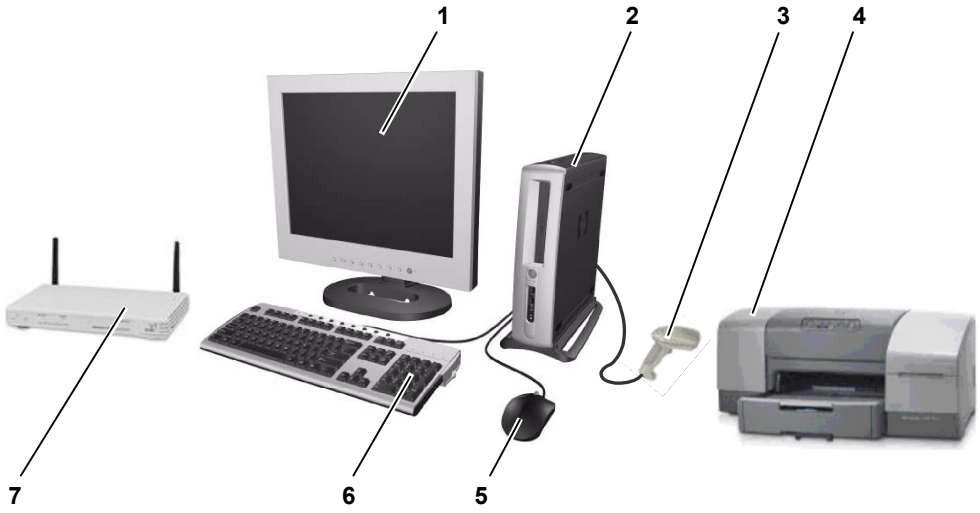


Figure 2-3: ***TEMPO*** ® *Reading Station hardware instruments*

Accessories

During incubation and reading of ***TEMPO*** ® cards, an incubation/reading rack is used.

*Note: Various accessories can be used with the **TEMPO** ® system; they are described in the Preparation Station User's Manual.*

Incubation/reading rack

The incubation/reading rack is used as a stand for ***TEMPO*** ® cards during incubation.

It also serves as a stand to place them in the ***TEMPO*** ® **Reader**.

It can hold up to 20 ***TEMPO*** ® cards.

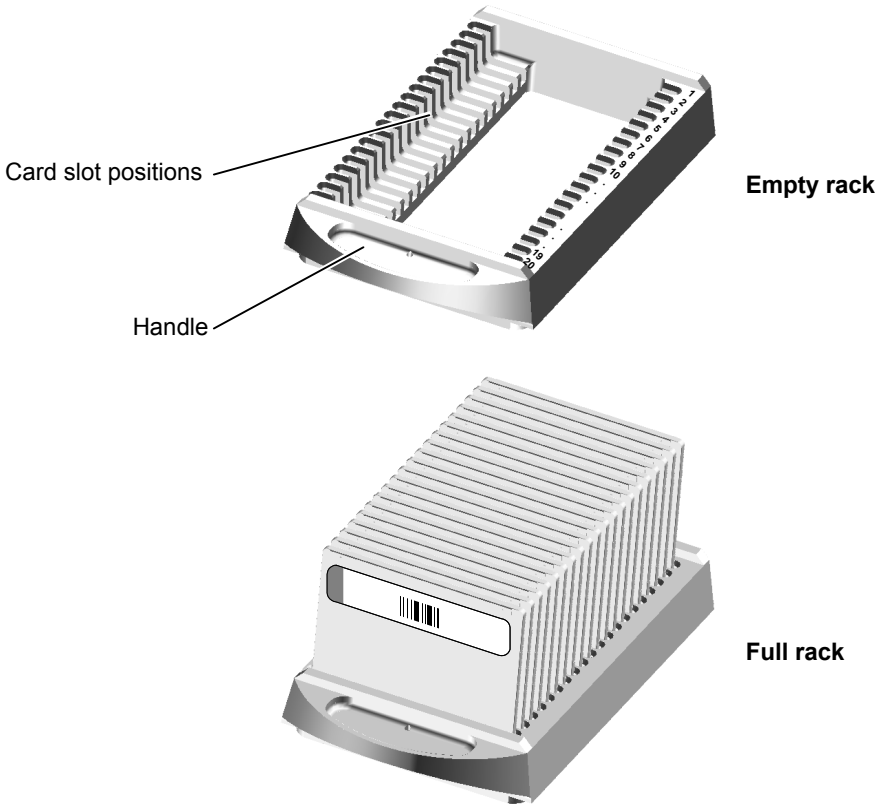


Figure 2-4: Incubation/reading rack

Extension potential

Information on how to use the ***TEMPO*** ® system in multi-station configuration and a description of the connection of the ***TEMPO*** ® system to the laboratory information system are available in the Preparation Station User's Manual.

General characteristics

Characteristics and technical specifications

Power requirements

Voltage: ..... 100 to 240 Volts

Consumption: ..... 2 A

Frequency: ..... 50 to 60 Hz +/- 5 %

The instrument must be connected to electricity networks with IT, TT & TN-type systems.

TEMPO **® Reader** protection fuse

Fuse: ..... 2 A T (time delayed) 250 V (5x20)

Environmental considerations

Temperature

Operating temperature
(except racks and cards): ..... 15 to 30°C (room temperature)

Storage temperature: ..... - 10 to 50°C

Humidity

Relative humidity: ..... 10 to 80% RH non-condensing

Humidity during storage and transport
(non-condensing within the storage and
transport temperature range): ..... up to 85%

Installation altitude

Maximum / minimum altitude: ..... - 100 m to 3000 m

Miscellaneous

Installation category: ..... II (in accordance with IEC 1010.1)

Degree of pollution: .....2 (in accordance with IEC 1010.1)

Equipment

TEMPO ® Reader

Dimensions: ..... 43 x 74 x 55 cm (l x d x h)

Weight: ..... 35.80 kg

Warming up time:

- First start up of the day: ..... 15 min
- Restarting: ..... 3 min

Reading time for a rack with 20 cards: ..... ≤ 5 min

Hardware instruments

The following minimum configuration is required:

Central processing unit

Processor: ..... ≥ Intel Pentium 4

Random Access Memory (RAM): ..... ≥ 128 Mo

Hard disk: ..... ≥ 40 Go

DVD+RW and CD-RW writer (see Appendix 1: General information on CD-RW and DVD+RW).

Flat monitor

Dimensions: ..... ≥ 17 "

Keyboard

Standard QWERTY keyboard.

Mouse-type pointing device

Optical mouse with two buttons.

Barcode reader

Universal 1D-type barcode reader

Printer

Color printer

Accessories

Incubation/reading rack

The incubation/reading rack includes 20 slots for holding the ***TEMPO*** ® cards.

Dimensions when empty: ..... 13 x 23 x 3.5 cm
(width x length x height)

Size of rack with cards in place: ..... 13 x 23 x 9 cm
(width x length x height)

Empty weight: ..... approx. 370 g

Material: ..... PBT (polybutylene terephthalate)

Consumables

Ink cartridges for the printer: Consult the documentation supplied with the printer.

Performance and limitations of use

Performance

The ***TEMPO*** ® **Reader** enables the reading of 500 tests in **2** hours.

Installation altitude

Minimum: ..... - 100 m

Maximum: ..... 3000 m

Operating principles

Refer to the ***TEMPO*** ® Preparation Station User's Manual.

3 Getting started

Introduction

This chapter describes the following topics:

- Storage conditions 3-2
- Precautions for handling, installation and use 3-2
- Unpacking 3-2
- Assembly and installation 3-2
- Software installation procedure 3-3
- Preparing for installation 3-3

Storage conditions

It is recommended to keep the packaging in case you need to store the instrument and equipment for any length of time.

IMPORTANT ! ***All the equipment (computer, monitor, etc.), consumables, reagents, etc., must be stored at the temperatures and in the conditions described in their respective documentation.***

*Note: The storage temperatures and conditions for the **TEMPO ® Reader** are indicated in "Environmental considerations" on page 2-9.*

Precautions for handling, installation and use

DANGER! ***Before moving any of the equipment, it is imperative to contact bioMérieux® Technical Assistance or your local bioMérieux® representative.***

The TEMPO ® Reader weighs approximately 36 kg. Two people will be required to remove it from its carton, lift it and place it on a flat stable surface.

Refer to the ***TEMPO ®*** Preparation Station User's Manual.

Unpacking

Refer to the ***TEMPO ®*** Preparation Station User's Manual.

Assembly and installation

Refer to the ***TEMPO ®*** Preparation Station User's Manual.

CAUTION! ***Do not place the TEMPO ® Reader near devices which cause vibration as this could affect the card reading.***

Software installation procedure

Refer to the ***TEMPO*** ® Preparation Station User's Manual.

Preparing for installation

Refer to the ***TEMPO*** ® Preparation Station User's Manual.

4 Starting and shutting down the configuration

Refer to the ***TEMPO*** ® Preparation Station User's Manual for information on:

- Control devices.
- Verification before starting.
- Starting and shutting down the ***TEMPO*** ® system.

5 Using the *TEMPO* ® system

Introduction

This chapter describes the following topics:

- Opening a work session on the Reading Station computer 5-2
- Getting started 5-5
- Description of the Welcome Screen on the Reading Station 5-7
- Managing incubations in progress 5-13
- Reading ***TEMPO*** ® cards 5-18
- Managing test results 5-25
- Managing rack readings and viewing the status of the ***TEMPO*** ® **Reader** 5-36
- Preparing a rack for reading 5-43

Opening a work session on the Reading Station computer

Two user profiles are authorized to open a work session on the Reading Station computer:

- The **USER** profile can:
  - Read tests and validate results.
  - Delete tests not requested by the laboratory information system.
  - View the configuration options of the ***TEMPO*** ® computer system.
- The **ADMINISTRATOR** profile can set configuration options for the ***TEMPO*** ® software programs, read and delete tests not requested by the laboratory information system.

When the ***TEMPO*** ® Reading Station computer is powered on, the ***TEMPO*** ® **Read** software program starts and the loading window is displayed.

Once the program has finished loading, the Login Window opens:

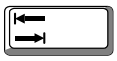
Figure 5-1: Login window on the Reading Station computer

Note: *If the **TEMPO ® Read** software has stopped running, you can restart it by double-clicking on the icon*

*on the desktop, using the "Start / Programs / TEMPO / TEMPO READ" command or by simultaneously pressing the keys **<Ctrl>**, **<Alt>** and **R**.*

When the Login window is displayed, the cursor is positioned by default in the "User name" entry box (**Login**).

Using the keyboard:

- Enter the User name.
- Press the  (tab) key to move the cursor to the "Password" entry box.
- Enter the user password.

5

- Click on the "**Login**" button or press to open the work session.

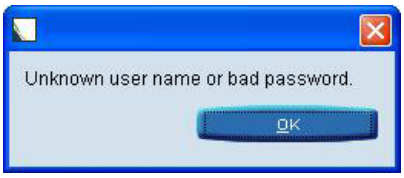
*Note: Press the "Quit" button or the **< Esc >** key if you do not want to open a session.*

The Reading Station software opens and the Welcome Screen is displayed (see Description of the Welcome Screen on the Reading Station on page 5-7).

WARNING! ***If the Reading Station computer is idle for a certain period of time, the current work list will automatically close and the Login window will be displayed. To use the Reading Station computer again, open a new work list.***

*Note: The automatic logout configuration option for the current work session can be set by an **ADMINISTRATOR** profile (see Chapter 8 - Configuring the **TEMPO** ® software).*

If an incorrect user name or password is entered, the following window is displayed:



- Click on (or press the key to close the window.
- Enter the user name and password again to open the work session.

IMPORTANT ! ***If you enter an incorrect password five times in a row, you will no longer be able to open a work session: your access rights to the TEMPO ® computer will be locked. The procedure for unlocking access rights by a user with an ADMINISTRATOR profile is described in Chapter 7 - User management.***

Getting started

Result validation modes

Three different validation modes can be used on the Reading Station computer to validate the test results:

– **Automatic** mode: all the results are validated automatically.

– **Semi-automatic** mode:

. The results of cards read during the incubation period are validated automatically.

Note: In semi-automatic mode, when a card barcode is entered via the keyboard, the result must be validated manually.

. The results of cards read after the incubation period must be validated manually.

– **Manual** mode: all the results must be validated manually.

Whichever validation mode is used, when the result of a test has been validated:

– the test can no longer be edited (addition of comments, selection of results, etc.).

– in connected mode: the test result is sent to the laboratory information system.

The validation mode (**automatic**, **semi-automatic** or **manual**) is selected by a user with an **ADMINISTRATOR** profile (see Chapter 8 - Configuring the ***TEMPO*** ® software).

Printing

If the computer is connected to a printer, ***TEMPO*** ® **Read** enables different information to be printed (list of the cards currently being incubated, list of the cards on a rack, etc.).

To print:

- Click on icon "Print".

*Note: Configuration of the default print options is performed when the **TEMPO** ® system is installed. To modify these options, call bioMérieux® or your local bioMérieux® respresentative.*

Filtering data

TEMPO ® **Read** can be used to filter data displayed on the screen for management of cards currently being incubated (see page 5-13) and on the test result management screen (see page 5-25). Filtering is configured by default to enable optimum use of ***TEMPO*** ® **Read**.

By using filtering criteria, you can modify the filter.

WARNING! ***A modified filter is kept from one session to another. When you open a new work session, you are advised to check that the filtering criteria activated enable you to view the data you want.***

However, when you restart the Reading Station computer, the filtering criteria are automatically modified so that the filter is reset to the default configuration (tests with results and awaiting validation).

Filter data on date and time

Data displayed on the screen for management of cards currently being incubated and on the test result management screen, can be filtered on the date and time results were obtained:

– after a specific date and time,

– before a specific date and time,

– between two specific dates.

Note: The date and time format may vary depending on regional options.

To modify an item of information:

- Double-click on it.

  It will be selected and highlighted in blue.

- Use the and buttons to scroll up or down.

Description of the Welcome Screen on the Reading Station

The Reading Station Welcome Screen includes:

1. An alarm field (see Alarm field on page 5-8).
2. A navigation area (see Navigation area on page 5-10).
3. A work field.
4. A control area.
5. A status bar (see Status bar on page 5-11).

IMPORTANT! ***When the Welcome Screen opens, check the alarm field to make sure that there are no cards that need to be urgently read, and that the TEMPO ® Reader functions properly.***

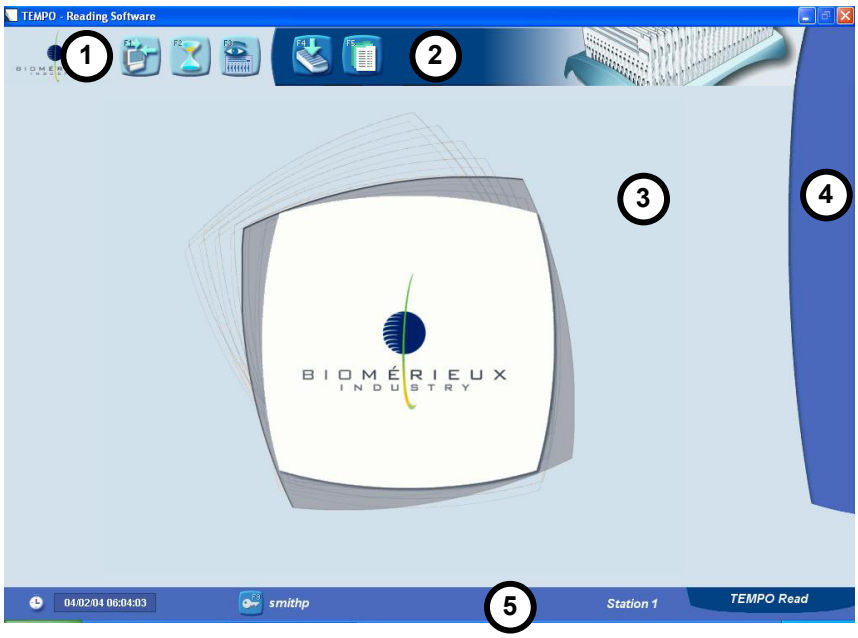


Figure 5-2: ***TEMPO ®*** *Reading Station Welcome Screen*

Note: *The alarm field, navigation area and status bar are the same for all the* ***TEMPO ®*** ***Read*** *screens.*
The work field and control area vary according to the screen displayed.

5

Alarm field

Status of the connection with the laboratory information system

Different icons indicate the status of the connection:

– The laboratory information system is not connected: the Preparation Station is being used in **Manual Mode** (see the Preparation Station User's Manual).

– The laboratory information system is connected to the ***TEMPO*** ® system: the Preparation Station is being used in **Connected Mode** (see the Preparation Station User's Manual).

– The laboratory information system is connected (or not) to the ***TEMPO*** ® system: an alarm has been detected by **BCI Net**.

– The laboratory information system is unreachable although the Preparation Station is being used in **Connected Mode**.

*Note: The configuration options for setting the **TEMPO** ® system in **Manual Mode** or **Connected Mode** are defined by a user with an **ADMINISTRATOR** profile (see Chapter 8 -Configuring the **TEMPO** ® software).*

Click on icon or press the **< F1 >** key to view additional information on the connection:

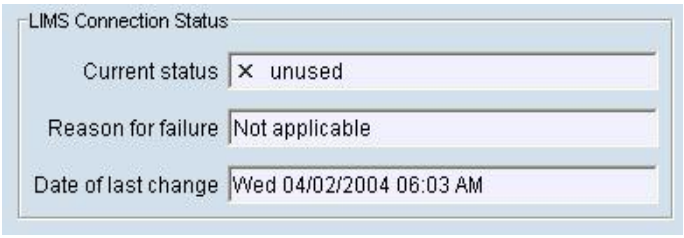


*Figure 5-3: Status of the **TEMPO** ® - laboratory information system connection*

Note: The alarm status icon may flash (orange triangle and red circle) until you view the cause of the alarms.

Status of cards during incubation

Icons are used to indicate the status of cards during incubation:

– No card is being incubated.

– One or more cards are being incubated.

Note: The time before reading of the first card is indicated on the icon.

– One or more cards are ready for reading.

– One or more cards must be urgently read.

– One or more cards have exceeded the incubation time.

Note: The annotation "The card was read too late" is added to the result when the card is read after the incubation period.

- Click on icon or press the **< F2 >** key to display the "Manage cards during incubation" window (see Managing incubations in progress on page 5-13).

Note: The alarm status icon may flash (orange triangle and red circle) until you view the cause of the alarms.

Status of the *TEMPO* ® Reader and the last rack read

Icons are used to indicate the status of the ***TEMPO*** ® **Reader** and the last racks of cards that were read:

– No rack reading can be displayed on the Preparation Station.

– The ***TEMPO*** ® **Reader** is not connected.

– All the racks have been read correctly (no alarms or error messages).

– The ***TEMPO*** ® **Reader** functions correctly and is connected.

– At least one rack has been read and has generated a warning message, but has not been validated by the user.

or

– A warning message concerning the ***TEMPO*** ® **Reader** is displayed

– At least one rack has been read and has generated an error message, but has not been validated by the user.

or

– The ***TEMPO*** ® **Reader** is unusable.

- Click on icon or press the **< F3 >** key to access the window for managing racks which have been read and viewing the status of the ***TEMPO*** ® **Reader** (see Managing rack readings and viewing the status of the ***TEMPO*** ® **Reader** on page 5-36).

Note: The alarm status icon may flash (orange triangle and red circle) until you view the cause of the alarms.

Navigation area

The navigation area gives access to the “Manual preparation of a rack” window and the “Test results management” window:

- Click on icon or press the **< F4 >** key to access the “Manual preparation of a rack” window (see Preparing a rack using an empty rack on page 5-46).
- Click on icon or press the **< F5 >** key to access the “Manage Test Results” window (see Managing test results on page 5-25).

Work field

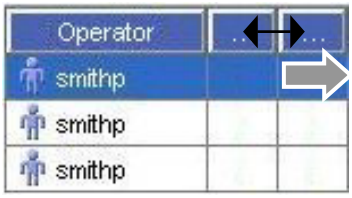
The content of the work field varies according to the information displayed. This field generally consists of a table containing various items of information. Depending on the order of priority in which information is displayed, the size of certain columns may be reduced.

To change the width of a column in order to view the information it contains:

- Place the cursor at the right-hand edge of the column you want to resize.

  The cursor changes to a double arrow: ↔

- Click and move the double arrow until the column is the size you want.



Status bar

The status bar shows:

– The date and time.

– The identifier of the user who opened the current work session.

– The computer identifier.

– The name of the ***TEMPO*** ® application in use (***TEMPO*** ® **Prep**, ***TEMPO*** ® **Read** or ***TEMPO*** ® **Admin**).

Figure 5-4: ***TEMPO*** ® ***Read*** *Status bar*

Note: The icon for logging out or shutting down the software is also located on the status bar.

5

To logout or quit the application

- Press the **< F9 >** key or click on icon

.

The logout window is displayed.

Figure 5-5: Logout window

Note: When the logout window opens, the "Logout" button is enabled:

- *Click on the button corresponding to what you want to do.*

The "Logout" button is used to logout the current user and display the session login window for a new user (see Figure 5-1: Login window on the Reading Station computer on page 5-3).

The "Quit" button is used to shut down the ***TEMPO*** ® application in progress.

Managing incubations in progress

Management of cards in the process of incubation is performed by clicking on icon in the alarm field or by pressing the **< F2 >** keyboard key.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, the “Incubated cards” screen includes:

1. A field for viewing the configuration options of the filter for displaying cards in the process of incubation (see Setting configuration options for the filter on incubated cards on page 5-14).
2. A field for displaying cards being incubated (in the form of a table).
3. A control area.

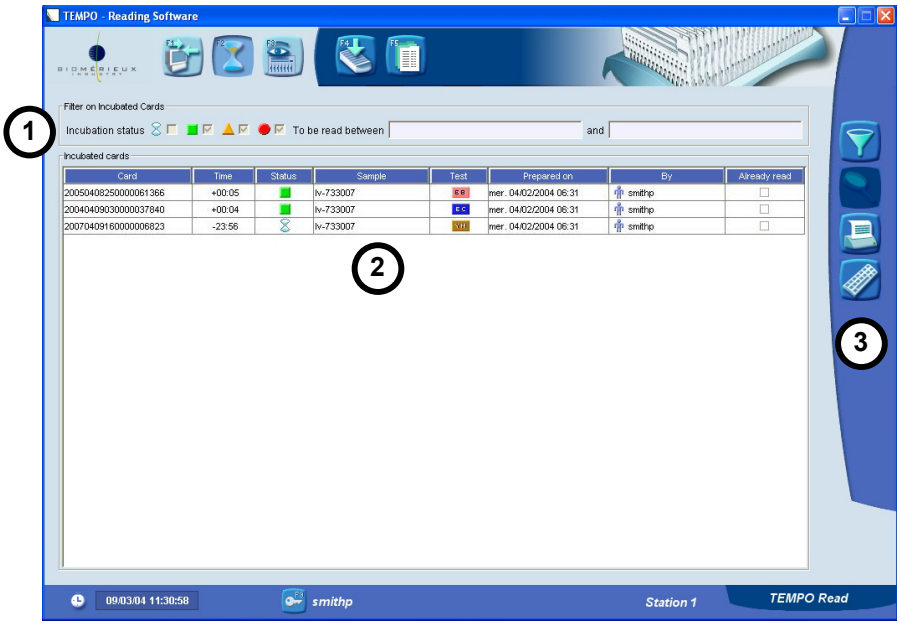


Figure 5-6: Manage cards being incubated window

5

Setting configuration options for the filter on incubated cards

The filter on incubated cards facilitates reading of the list of cards being incubated (table).

To display the window for setting incubated card filter configuration options:

- Click on icon (filter).

  The following window appears:

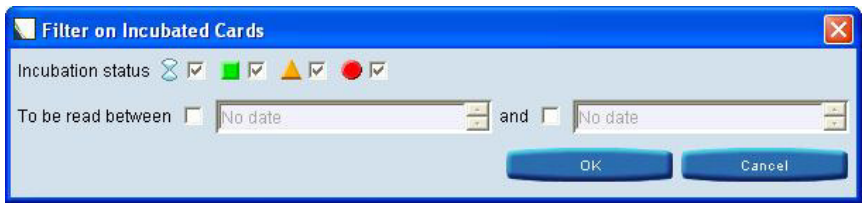


Figure 5-7: Setting incubated card filter configuration options

The criteria for filtering the displayed cards are:

– Cards being incubated.

– Cards ready to be read.

– Cards to be read urgently.

– Cards which have exceeded the incubation time.

– Date and time of card reading (see Filter data on date and time on page 5-6).

The

button is used to confirm the new filter configuration options.
The

button is used to keep the current configuration options.

WARNING! ***When the Reading Station computer is started, the filter is automatically set to the default configuration to display the cards that are ready to be read, that have to be urgently read and that have exceeded the incubation time.***

Viewing incubated card details

To display the window for viewing incubated card details:

- Select the card by clicking in one of the cells.

  The row containing the selected card is highlighted in blue.

- Click on icon to open the “Details on Incubated Card“ window.

or

- Click on icon (keyboard entry),
- Enter the barcode of the card via the keyboard.
- Press to confirm.

or

- Scan the barcode using the barcode reader.

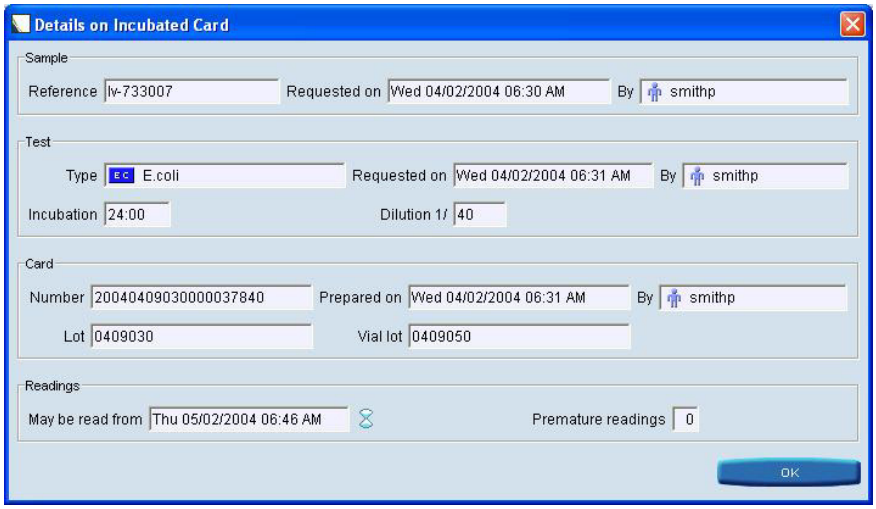


Figure 5-8: Details on Incubated Card window

5

Searching for a card

To select a card or search for it in the list of cards:

- Click on icon (keyboard entry),
- Enter the barcode of the card via the keyboard.
- Press to confirm.

or

- Scan the barcode using the barcode reader.

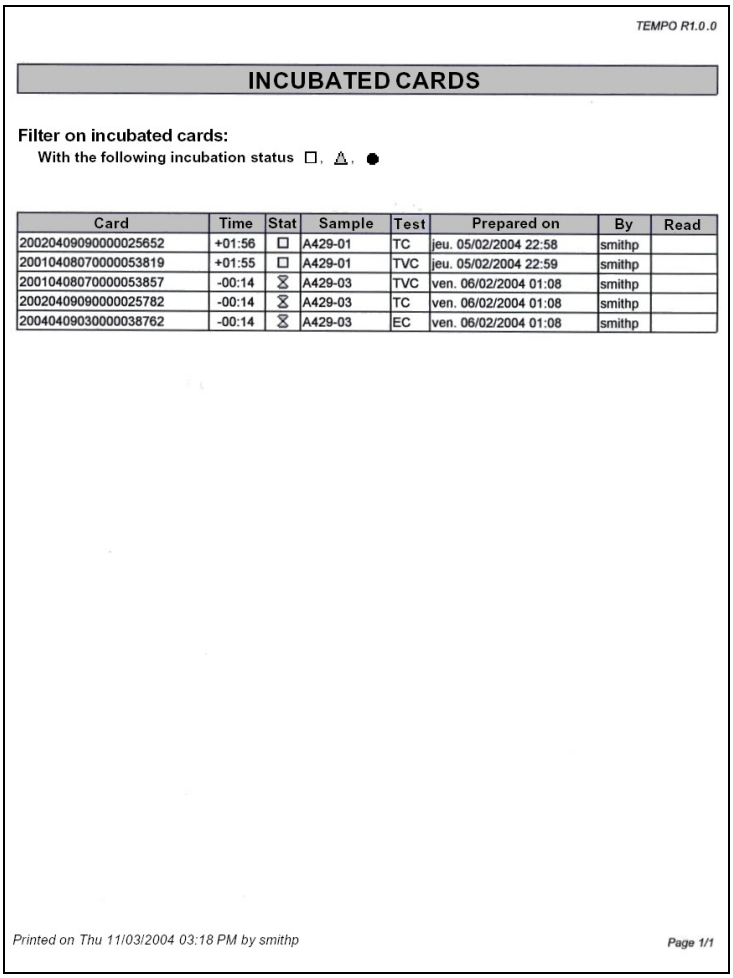
If the card exists, the “Details on Incubated Card“ window is displayed. (see Figure 5-8: Details on Incubated Card window).

If the card is included in the list of cards being incubated, it is selected and the row it is in is highlighted in blue.

If the card does not exist, the following dialog box is displayed:

Printing the list of cards being incubated

Icon in the incubated card management window, can be used to print the list of cards displayed (see Printing on page 5-5).



TEMPO R1.0.0

INCUBATED CARDS

Filter on incubated cards:
With the following incubation status □, △, ●

Card	Time	Stat	Sample	Test	Prepared on	By	Read
20020409090000025652	+01:56	□	A429-01	TC	jeu. 05/02/2004 22:58	smithp	
20010408070000053819	+01:55	□	A429-01	TVC	jeu. 05/02/2004 22:59	smithp	
20010408070000053857	-00:14	⧖	A429-03	TVC	ven. 06/02/2004 01:08	smithp	
20020409090000025782	-00:14	⧖	A429-03	TC	ven. 06/02/2004 01:08	smithp	
20040409030000038762	-00:14	⧖	A429-03	EC	ven. 06/02/2004 01:08	smithp	

Printed on Thu 11/03/2004 03:18 PM by smithp

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Figure 5-9: Example of a printout for the list of cards being incubated

5

Reading *TEMPO* ® cards

IMPORTANT! ***The TEMPO ® Reader is designed to operate with the door closed.***

To avoid reading errors and incorrect results:

- ***Keep the TEMPO ® cards in an upright position (barcode at the top).***
- ***Do not drop the cards.***
- ***Do not write on the card wells and barcode.***

bioMérieux ® SA is in no case liable for any incorrect results arising from failure to respect these recommendations.

CAUTION! ***Never remove a reading rack from the TEMPO ® Reader if the reading cycle has been interrupted by a power failure (See chapter 11-Troubleshooting - Instrument errors: power fail message on page 11-3).***

The ***TEMPO ®*** **Reader** can only read ***TEMPO ®*** cards if a work session has been opened on the Reading Station computer by an identified user.

TEMPO ® card reading is performed after incubation.

Note: *A user can choose to perform premature reading of cards being incubated.*
In this case:

- *The maximum number of premature readings for a card is equal to the maximum number of readings for the test minus two readings.*
- *The result of the premature reading cannot be validated.*

The window for managing incubated cards informs you of the cards that are ready to be read (see Managing incubations in progress on page 5-13).

*Note: To view the cards as they are read, you can display the "Managing rack readings and viewing the status of the **TEMPO ® Reader** on page 5-36.*

- Remove the incubation/reading rack from the incubator.

If the racks and cards show any traces of moisture:

- Leave them to dry before reading.

If the ***TEMPO*** ® **Reader** does not contain a rack and its green indicator light is on, it is ready to read cards.

- Open the ***TEMPO*** ® **Reader** door.

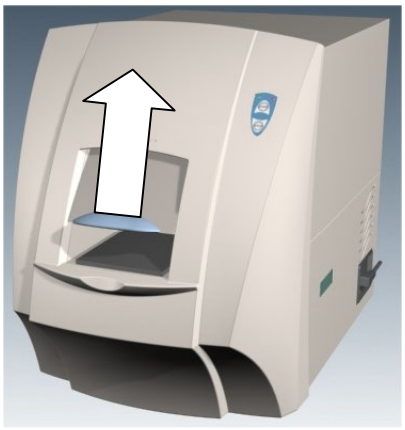
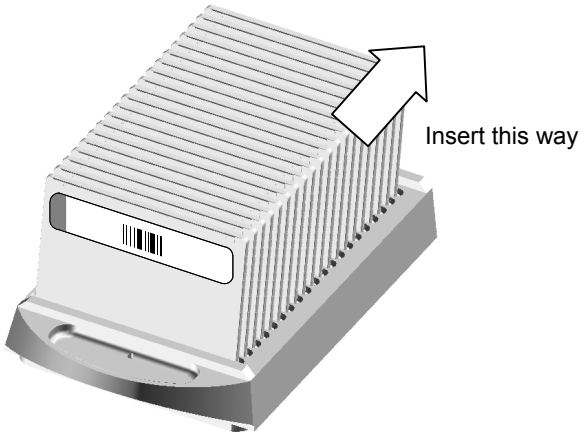


*Figure 5-10: Opening the **TEMPO** ® **Reader** door*

IMPORTANT! Before placing the reading rack in the TEMPO ® Reader, check that nothing will hinder its insertion.

- Place the reading rack in the ***TEMPO*** ® **Reader**:
  - Insert the rack in the ***TEMPO*** ® **Reader**.



  - Push the rack inside until it touches the stop.

Figure 5-11: Inserting the rack in the ***TEMPO*** ® ***Reader***

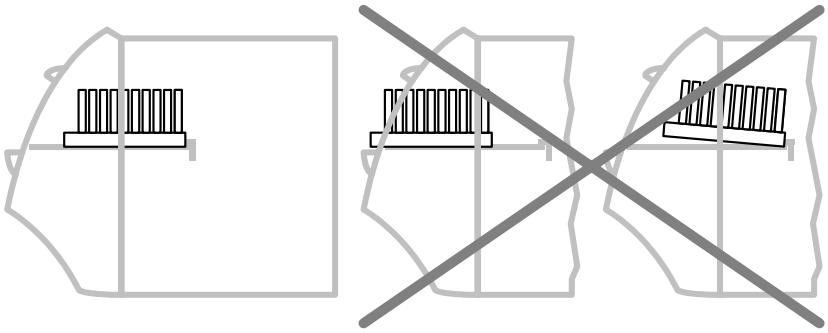


Figure 5-12: Position of the rack inside the reader

IMPORTANT! ***Before performing a reading with the TEMPO ® Reader, you must check that the rack is correctly positioned against the stop in the reader.***
An improperly positioned rack may cause the TEMPO ® Reader to function incorrectly.

- Close the ***TEMPO*** ® **Reader** door: the green indicator light flashes slowly.

*Figure 5-13: Closing the **TEMPO** ® **Reader** door*

IMPORTANT! ***Before starting the fill cycle, check that the door is properly closed.***

- Press the "**START**" button to start card reading:
  - A short beep is emitted.
  - The door locks.
  - The red light comes on.
  - The reading cycle starts.

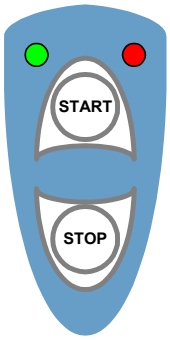


*Figure 5-14: Control buttons and lights on the **TEMPO** ® **Reader***

*Note: A reading cycle can be interrupted by pressing "**STOP**".*

*Note: During reading, the cards are processed one after another by the **TEMPO ® Reader**.*
The information relating to each card is sent to the Reading Station computer as the cards are processed.

The end of the reading cycle is signaled by three short beeps and the green indicator light which flashes rapidly.

- Check the card readings on the Reading Station computer (see Managing rack readings and viewing the status of the ***TEMPO ®*** **Reader** on page 5-36).

If necessary:

- Repeat card readings (see Preparing a rack for reading on page 5-43).
- Open the ***TEMPO ®*** **Reader** door.
- Remove the reading rack from the ***TEMPO ®*** **Reader**.
- Dispose of the cards into a suitable container.

Description of the *TEMPO* ® Reader lights and sound signals

STATUS	LIGHT		BUTTON		Note
	GREEN	RED	START	STOP	
Initialization and selft-tests.	/	●	/	/	/
TEMPO ® **Reader** ready for reading (without a rack)	●	/	/	/	/
TEMPO ® **Reader** ready for reading (with a rack in place and the door closed).	✹ (slow)	/		/	Press the **START** button to start the reading cycle. A short beep is emitted.
Reading phase	/	●	/	/	**DOOR locked.**
	/	/	/		Press the **STOP** button to stop the reading cycle.
TEMPO ® **Reader** ready for unloading the rack	✹ (rapid)	/	/	/	Three short beeps.
MAINTENANCE operation to be performed on the ***TEMPO*** ® **Reader** by a bioMérieux® field service engineer or the local bioMérieux® representative.	/	●	/	/	The red light is on other than during initialization or reading and the message **MAINTENANCE** appears on the ***TEMPO*** ® **Reader** display**.**
A **FAULT** has occurred.	/	✹	/	/	A long beep. An error code appears on the ***TEMPO*** ® **Reader** display.

● : Light on ✹ : Light flashing

Managing test results

The test results management screen is accessed by clicking on icon in the control area or by pressing the **< F5 >** key.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, the “Test results management” screen includes:

1. A field for viewing the configuration options of the filter for displaying test results (see Setting configuration options for the filter on samples, tests, and cards on page 5-26).
2. A field for displaying test results (presented in the form of a table) and comments on the selected test.
3. A control area.

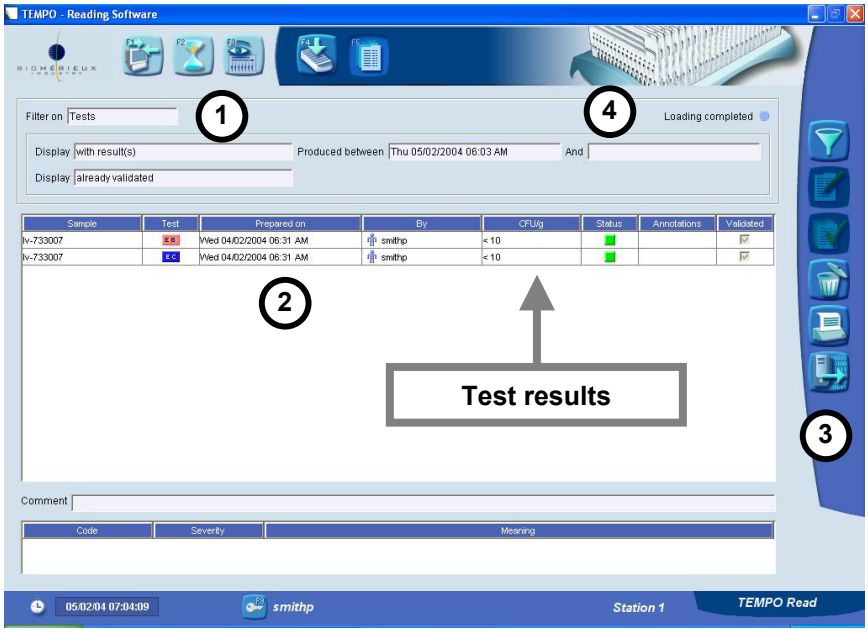


Figure 5-15: Test results management window

5

Setting configuration options for the filter on samples, tests, and cards

The window for setting configuration options for the filter is used to filter samples, tests, and cards in the table on the test results management screen to make it easier to read.

According to the information you are looking for, you can filter on:

- a sample (see Filter on samples on page 5-28),
- tests (see Filter on tests on page 5-27),
- a card (see Filter on cards on page 5-29).

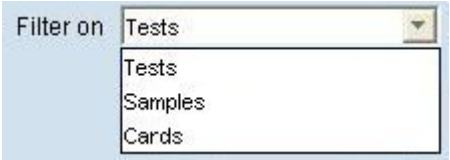


Figure 5-16: Selecting the filter for displaying samples, tests and cards

Note: You can also filter on a sample or a card by entering the barcode using the barcode reader. In this case:

- *the filter is automatically configured according to the barcode entered,*
- *the sample or the card is automatically displayed in the test results field.*

WARNING! ***When the Reading Station computer is started, the samples, tests and cards filter is configured by default to display tests "with results" and "waiting for validation".***

Note: Depending on the filter criteria, data may take a while to display if the base contains a large amount of data.

You can interrupt data display by clicking on the Searching... *button* ***(4)*** *on the results management screen (see Figure 5-15: Test results management window on page 5-25).*

If you do so, the data visible on the results management screen will be those displayed before data display was interrupted.

Filter on tests

To display the samples, tests and cards filter configuration options window:

- Click on icon (Filter).

  The window for setting configuration options for the filter opens.

- Select "**Tests**" in the "Filter on" drop down list (see Figure 5-16: Selecting the filter for displaying samples, tests and cards on page 5-26).

  The following “Filter on Tests Results” window opens:

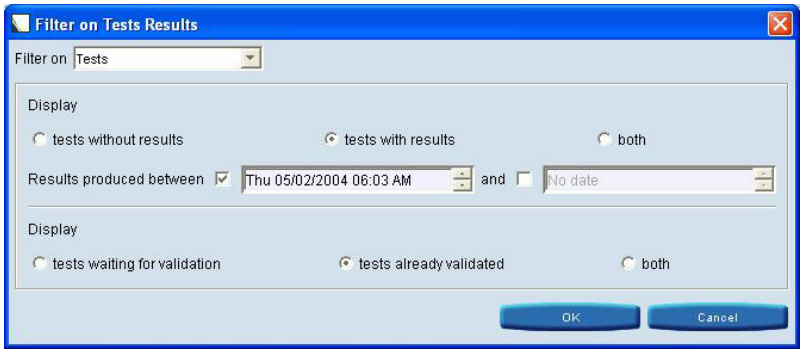


Figure 5-17: “Filter on tests” configuration options window

The criteria for filtering tests displayed are:

– Display tests with results, or without results, or both.

Note: To filter tests with results, you can add an additional filter on the date(s) and time(s) results were obtained (see Filter data on date and time on page 5-6).

– Display tests waiting for validation, or tests already validated, or both.

- Click on to confirm the filter configuration options.
- Click on to keep the current configuration options.

5

Filter on samples

To display the samples, tests and cards filter configuration options window:

- Click on icon (Filter).

  The window for setting configuration options for the filter opens.

- Select "**Samples**" in the "Filter on" drop down list (see Figure 5-16: Selecting the filter for displaying samples, tests and cards on page 5-26).

  The following “Filter on Tests Results” window opens:

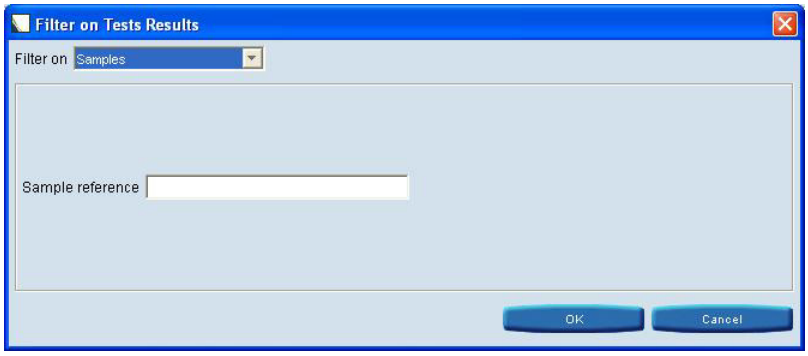
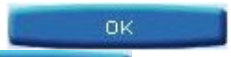


Figure 5-18: “Filter on samples” configuration options window

- Click in the "**Sample reference**" text box**.**
- Enter the sample reference using the keyboard.
- Click on  to confirm the filter configuration options or on to keep the current configuration options.

Note: If you enter the sample reference by scanning the barcode, the filter configuration options are automatically modified and the list of tests associated with the sample are displayed.

Filter on cards

To display the samples, tests and cards filter configuration options window:

- Click on icon (Filter).

  The window for setting configuration options for the filter opens.

- Select "**Cards**" in the "Filter on" drop down list (see Figure 5-16: Selecting the filter for displaying samples, tests and cards on page 5-26).

  The following “Filter on Tests Results” window opens:

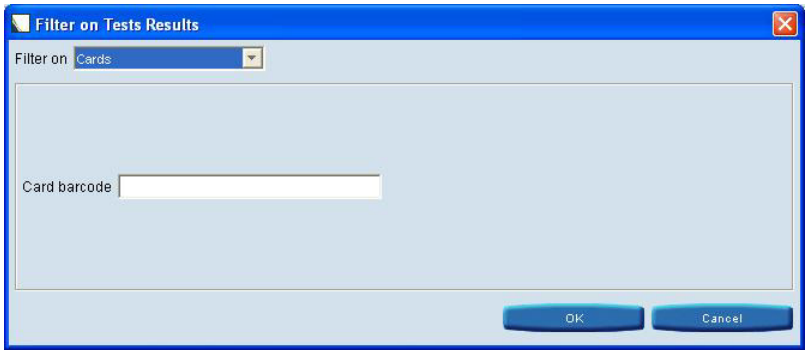
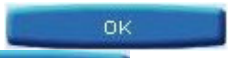


Figure 5-19: “Filter on cards” configuration options window

- Click in the "**Card barcode**" text box**.**
- Enter the barcode of the card using the keyboard.
- Click on  to confirm the filter configuration options or on to keep the current configuration options.

Note: If you enter the card identifier by scanning the barcode, the filter configuration options are automatically modified and the test associated with the card is displayed.

Viewing test details and adding comments

WARNING! ***In the "view test details" window, you can only add comments for tests which have not been validated.***

To display the "view test details" window:

- Select the test to be viewed by clicking in one of the cells.

  The row containing the selected test is highlighted in blue.

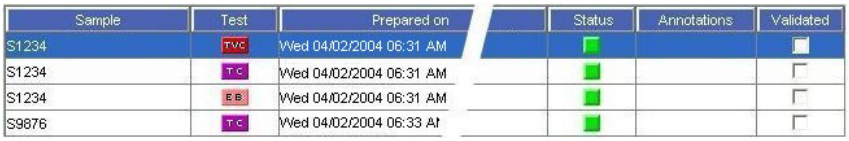


Figure 5-20: Select a test

- Click on icon .

  The "Details about Test Results" window is displayed.

- Click on a result **(1)** to display the associated information.

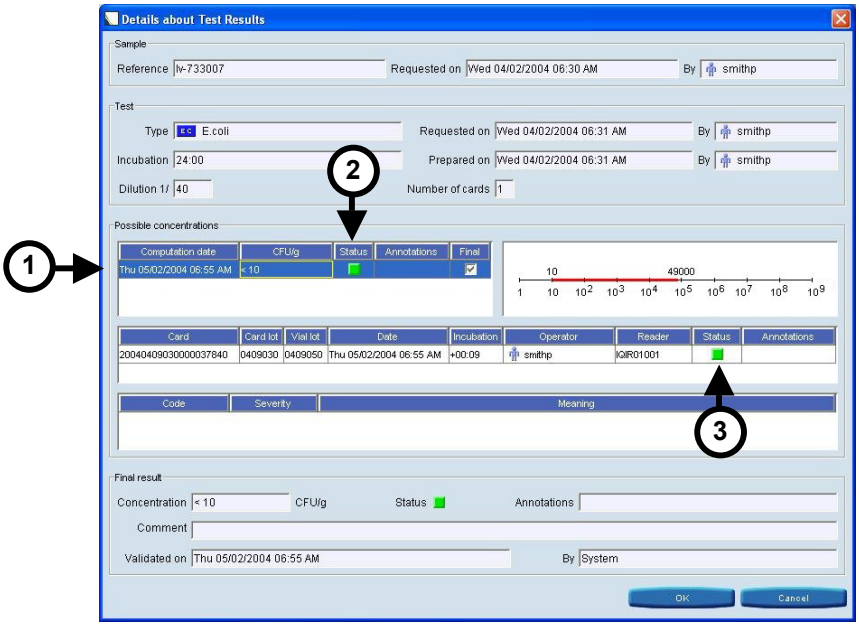


Figure 5-21: "Details about Test Results" window

*Note: The "Details about Test Results" window also enables you to view the status **(3)** of the card readings and the status **(2)** of the result.*

An annotation will also be displayed in this window if:

- *The card or vial used for the test is out-of-date.*
- *The **TEMPO ® Reader** check using **TEMPO ® Check** was not performed or if it gave an incorrect result (see Control of the measurement performance of the **TEMPO ® Reader** on page 10-8).*

To add comments for a test:

- Click in the "**Comment**" text box in the "Final result" field.

  The cursor is positioned in the text box.

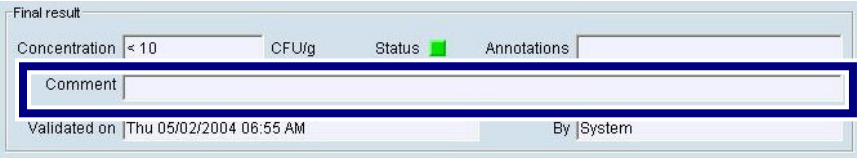


Figure 5-22: Adding comments for a test

- Enter the comments using the keyboard.

Note: Existing comments can be modified or deleted when you enter new comments.

- Click on OK to confirm the comments you have added or click on Cancel if you do not want to add any comments.

Note: The main default comments are listed in Appendix 3: Main computer system messages and annotations on page 12-5).

5

Selecting a test result

When a test has several different results, you have to select the result to be validated **(1)**.

- Select the "Final" check box **(2)**.
- Click on OK to record your selection or on Cancel to close the window without making any modifications.

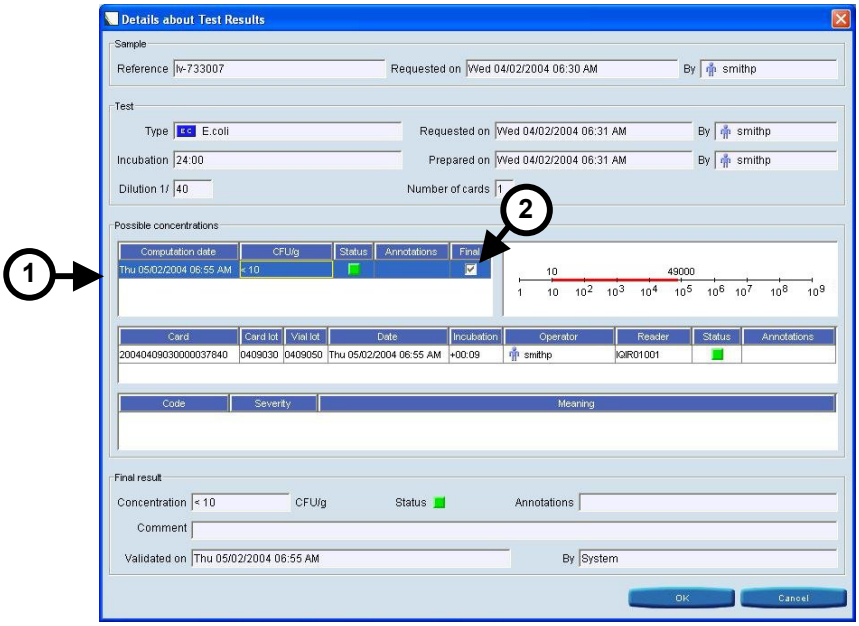


Figure 5-23: Selecting a test result

Note: If several readings give the same result, the first result obtained under normal operating conditions is automatically selected.

Validating test results manually

This function is used to validate a test result and send it to the laboratory information system.

Note: A test without a result can also be validated.

The test results are rounded up to the nearest whole number.

Reminder: Depending on the result validation mode you have selected on the Reading Station computer, the results are automatically or manually validated (see Result validation modes on page 5-5).

To validate the results using the test results management window:

- Select the results you want to validate by clicking on the corresponding check box in the "**Validate**" column of the field for displaying test results.

- Click on icon so that the results are validated and sent to the laboratory information system.

Note: A validated test can still be viewed but can no longer be modified (addition of comments, selection of the result, etc.).

5

Deleting tests

This function is used to delete tests and their associated card(s). A test can only be deleted if it has not been validated, or if it has not been requested by the laboratory information system.

To delete a test using the test results management window:

- Select the test by clicking in one of the cells.

  The row containing the test is highlighted in blue.

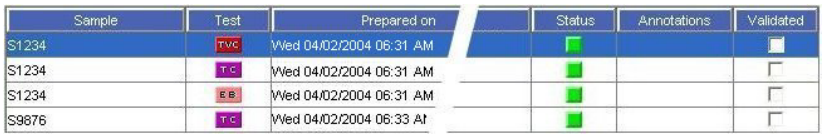


Figure 5-24: Selecting a test to be deleted

- Click on icon (delete) to delete the selected test.

  The Test Deletion confirmation dialog box opens:

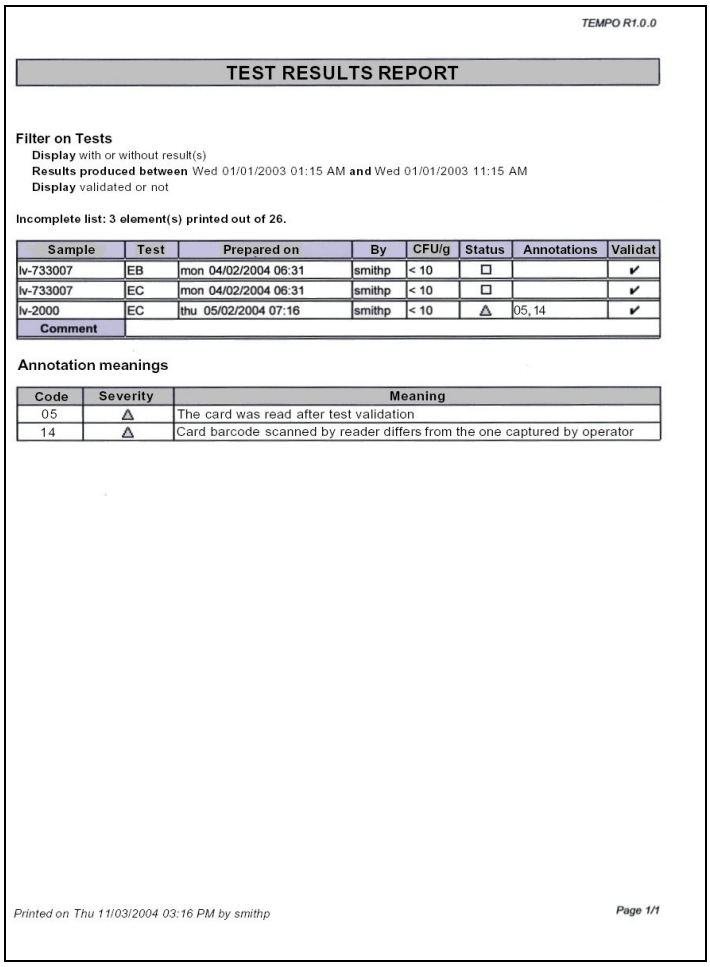
Figure 5-25: Test Deletion confirmation dialog box

- Click on to delete the test or on to cancel.

Note: To avoid errors, only one test can be deleted at a time.

Printing the list of tests displayed on the "Test Results Management" screen

Icon in the test results management window can be used to print the tests displayed (see Printing on page 5-5).



TEMPO R1.0.0

TEST RESULTS REPORT

Filter on Tests
Display with or without result(s)
Results produced between Wed 01/01/2003 01:15 AM **and** Wed 01/01/2003 11:15 AM
Display validated or not

Incomplete list: 3 element(s) printed out of 26.

Sample	Test	Prepared on	By	CFU/g	Status	Annotations	Validat
lv-733007	EB	mon 04/02/2004 06:31	smithp	< 10	□		✔
lv-733007	EC	mon 04/02/2004 06:31	smithp	< 10	□		✔
lv-2000	EC	thu 05/02/2004 07:16	smithp	< 10	△	05, 14	✔
Comment							

Annotation meanings

Code	Severity	Meaning
05	△	The card was read after test validation
14	△	Card barcode scanned by reader differs from the one captured by operator

Printed on Thu 11/03/2004 03:16 PM by smithp

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Figure 5-26: Example of a test results report

Managing rack readings and viewing the status of the *TEMPO* ® Reader

The screen for managing rack readings and viewing the status of the ***TEMPO*** ® **Reader** is used to:

– view card readings in real-time and check that operations are running smoothly.

– view the status of the ***TEMPO*** ® **Reader**.

- Press the **< F3 >** key to access this screen or click on icon in the alarm field.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, the screen for managing rack readings and viewing the status of the ***TEMPO*** ® **Reader** includes:

1. A field for viewing the operating status of the ***TEMPO*** ® **Reader.**
2. A field for displaying the last racks that were read and their cards (in the form of a table).
3. A control area.

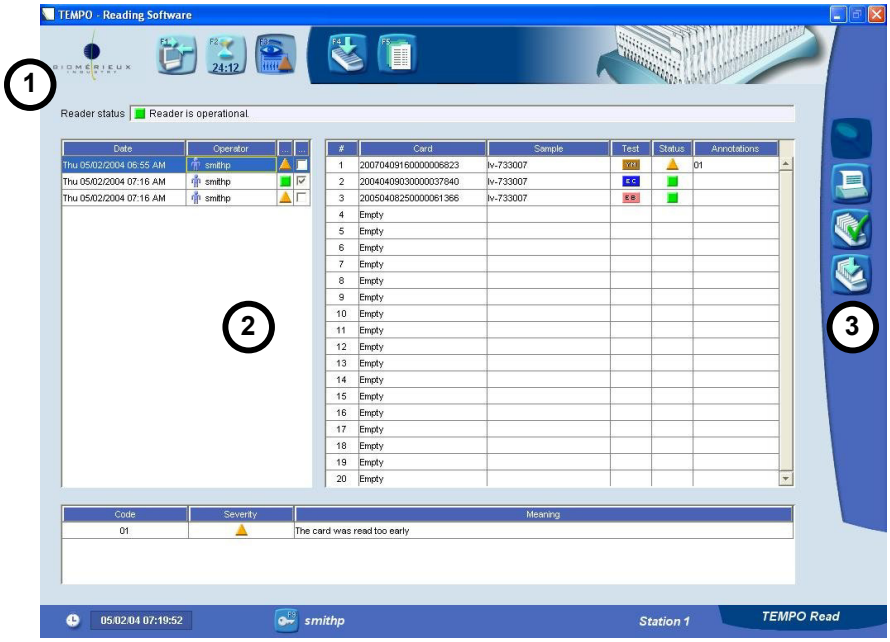


*Figure 5-27: Managing rack readings and viewing the status of the **TEMPO ® Reader***

Note: After backup, only the last 25 racks read and not validated remain in the table.

Viewing the status of the *TEMPO* ® Reader

The field for viewing the status of the ***TEMPO*** ® **Reader** provides information on how the ***TEMPO*** ® **Reader** is functioning.

Note: The main messages are listed in Appendix 3: Main computer system messages and annotations on page 12-5.

5

Viewing details of a card which is in the table on the managing rack readings screen

To view the details of a card using the screen for managing the last racks that were read:

- Select the rack which contains the card you want to view and click on one of the cells.

  The row containing the selected rack is highlighted in blue and the contents of the rack are displayed (cards).

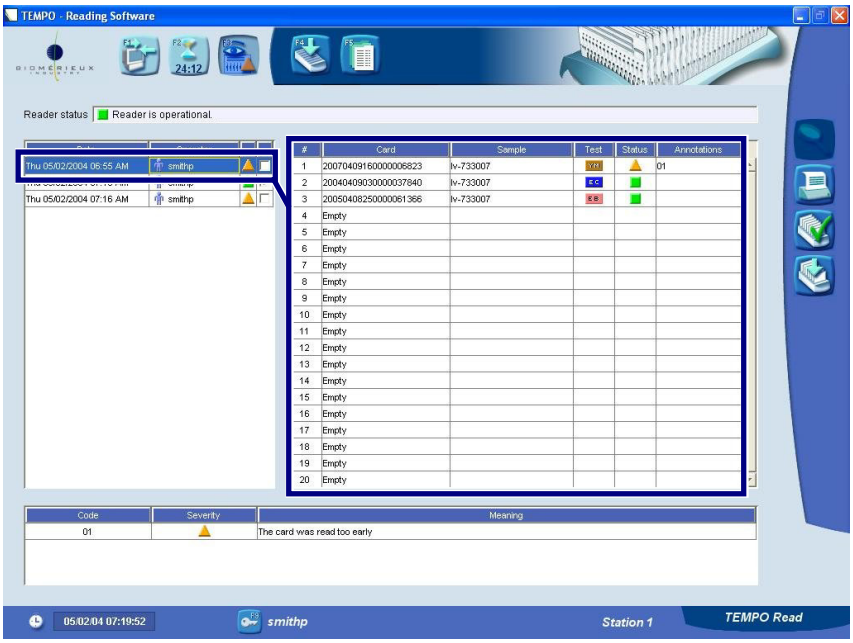


Figure 5-28: Selecting a rack

- Select the card by clicking in one of the cells.

  The row containing the card is highlighted in blue.

#	Card	Sample	Test	Status	Annotations
1	20070409160000006823	lv-733007	YM		01
2	20040409030000037840	lv-733007	EC		
3	20050408250000061366	lv-733007	EB		

Figure 5-29: Selecting a card

- Click on icon or double-click on the selected row.

  The “Details on the card reading” window opens.

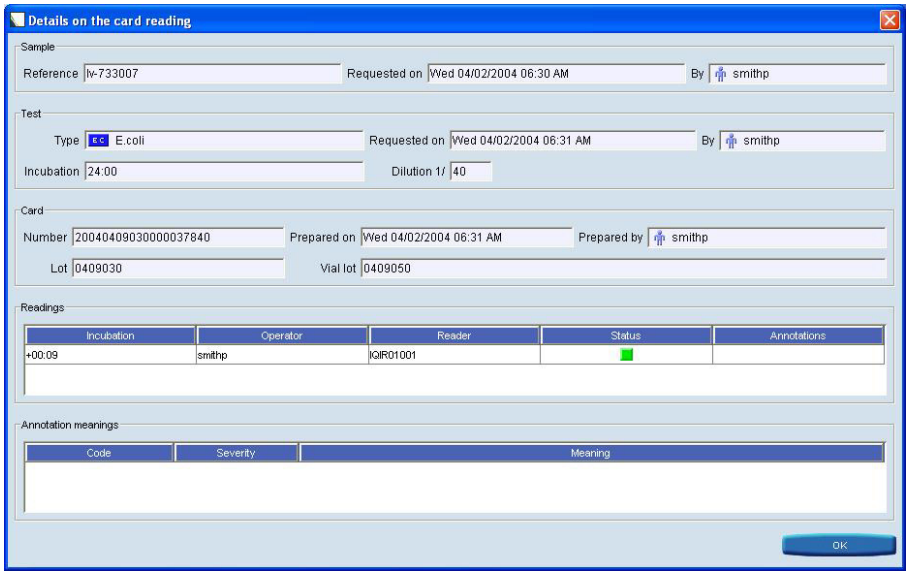


Figure 5-30: “Details on the card reading” window

- Click on to close the window.

Printing a rack reading report (list of cards)

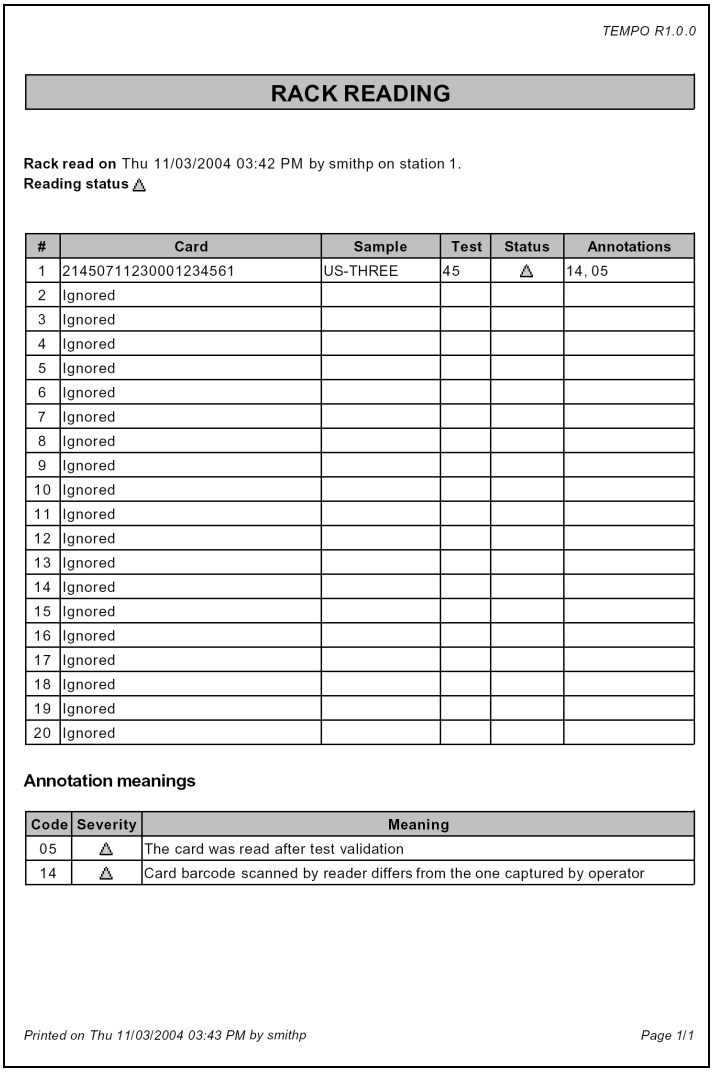
To print a rack reading report (list of cards) using the manage rack readings screen:

- Select the rack by clicking in one of the cells.

  The row containing the selected rack is highlighted in blue.

Figure 5-31: Selecting a rack

- Click on icon (Print) to print the list of cards in the rack (see Printing on page 5-5).



TEMPO R1.0.0

RACK READING

Rack read on Thu 11/03/2004 03:42 PM by smithp on station 1.
Reading status ⚠

#	Card	Sample	Test	Status	Annotations
1	21450711230001234561	US-THREE	45	⚠	14, 05
2	Ignored				
3	Ignored				
4	Ignored				
5	Ignored				
6	Ignored				
7	Ignored				
8	Ignored				
9	Ignored				
10	Ignored				
11	Ignored				
12	Ignored				
13	Ignored				
14	Ignored				
15	Ignored				
16	Ignored				
17	Ignored				
18	Ignored				
19	Ignored				
20	Ignored				

Annotation meanings

Code	Severity	Meaning
05	⚠	The card was read after test validation
14	⚠	Card barcode scanned by reader differs from the one captured by operator

Printed on Thu 11/03/2004 03:43 PM by smithp *Page 1/1*

Figure 5-32: Example of a rack reading report

5

Validating racks

This operation enables you to indicate that any problems encountered during rack reading have been dealt with.

The rack display field shows the last racks that were read. If all the cards in a rack have been read correctly and the rack has not generated any errors, you should click on the “Accepted” check box.

Figure 5-33: Rack display field

To validate:

- Select the racks by clicking on the corresponding "**Accepted**" check box.
- Click on icon (Accept).

Once a rack has been validated, it is no longer displayed in the rack display field and is deleted from the database.

Preparing a rack for reading using an existing rack

How to prepare a rack for reading using icon (Prepare a rack reading) is described in Preparing a rack for reading on page 5-43.

Preparing a rack for reading

The purpose of preparing a rack for reading is to enable rereading of cards that have already been read or that could not be read (unreadable barcodes, etc.).

Rack preparation consists of creating a new rack from a rack that already exists or from an empty rack.

Preparing a rack for reading using an existing rack

To prepare a rack from an existing one, you must use the computer to duplicate a rack which has already been read and select the cards to be reread.

*Note: Preparing a rack from an existing one means you can reread cards in the last rack read which is still in the **TEMPO ® Reader**.*

To prepare a rack using an existing one:

- Select a rack on the screen displaying the last racks that were read.

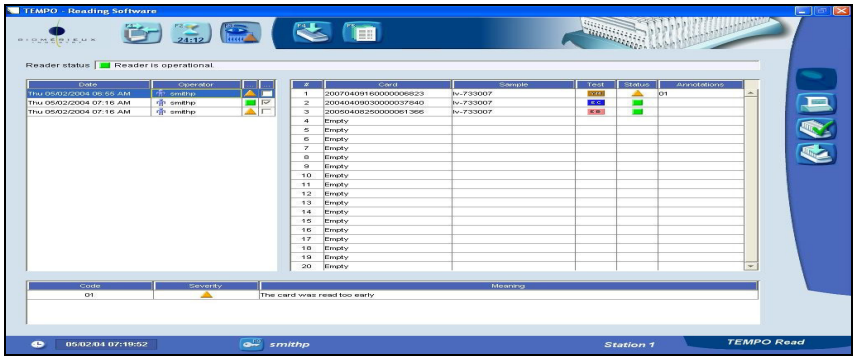


Figure 5-34: Preparing a rack on the screen displaying the last racks that were read

- Click on icon (Prepare a rack)

The rack reading preparation screen displays the set of cards that are included in the duplicated rack.

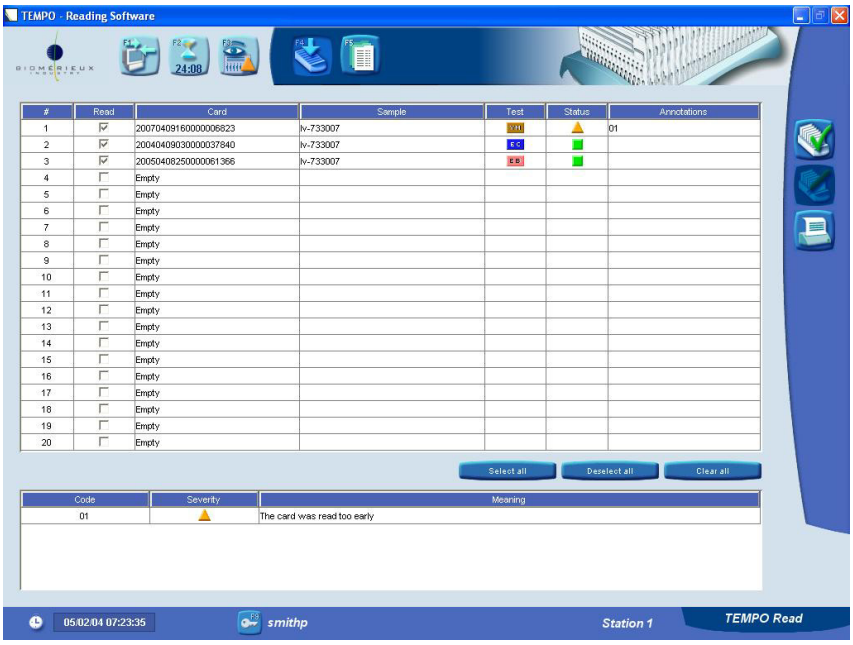


Figure 5-35: Rack reading preparation screen

- Select (or deselect) the cards to be read by clicking on the corresponding check boxes.

Figure 5-36: Selecting or deselecting cards to read on the rack reading preparation screen

Note: You can select all the slot positions by clicking on Select all.

You can deselect all the slot positions by clicking on Deselect all.

To read a rack that has been prepared using an existing rack, you need to validate its preparation by clicking on icon (see Validation and modification of a prepared rack on page 5-50).

Note: When the rack is validated, the flashing *icon is displayed in the status bar to indicate that the rack must be read before any other rack.*

Preparing a rack using an empty rack

Preparation of a rack using an empty one consists of preparing the rack on the computer and physically with the cards to be reread.

- Click on icon in the control area to access the rack reading preparation screen or press the **< F4 >** keyboard key.

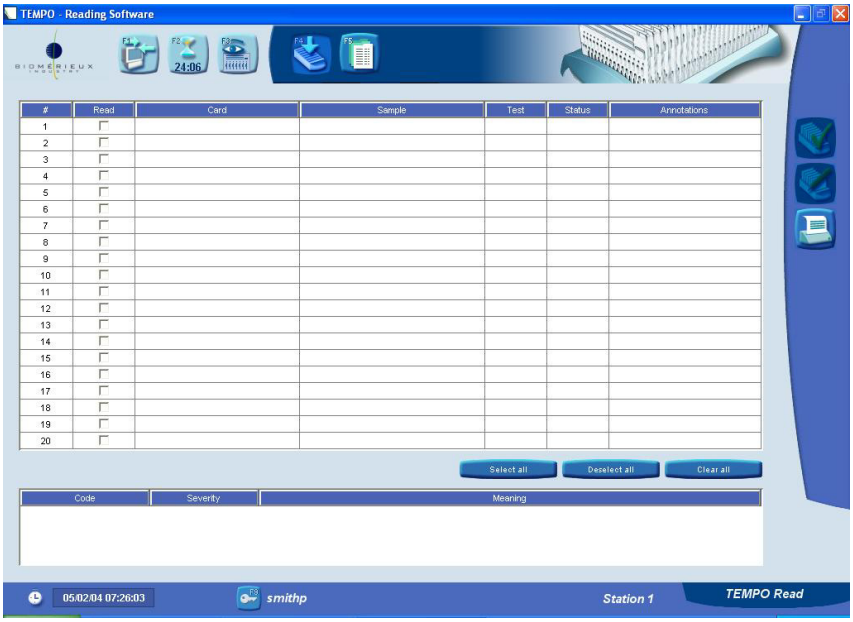


Figure 5-37: Rack reading preparation screen (empty)

To prepare a rack using an empty one:

- Select (or deselect) the slot positions of the cards to be read by clicking on the corresponding check boxes.

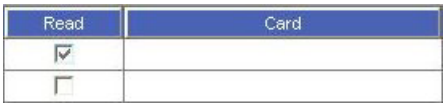


Figure 5-38: Selecting slot positions of cards to be read

Note: You can select all the slot positions by clicking on

.
You can deselect all the slot positions by clicking on

.

If the barcode on a card is unreadable:

- Click on the cell in the "**Card**" column corresponding to that card's slot position.

  The cursor will be positioned in the cell.

Figure 5-39: Selecting the slot position for a card

- Enter the card's barcode via the keyboard.
- Press to confirm .

Note: When a card's barcode is entered, all the information concerning that card is displayed.

- Repeat these operations for all the cards that have unreadable barcodes.

5

- Insert the cards in the rack in the slot positions selected on the computer.

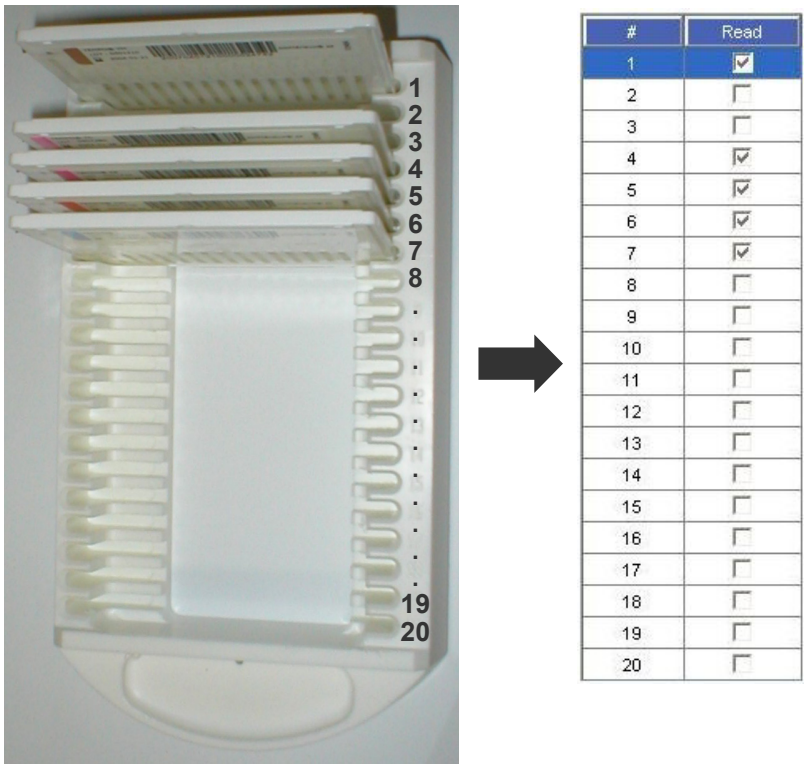


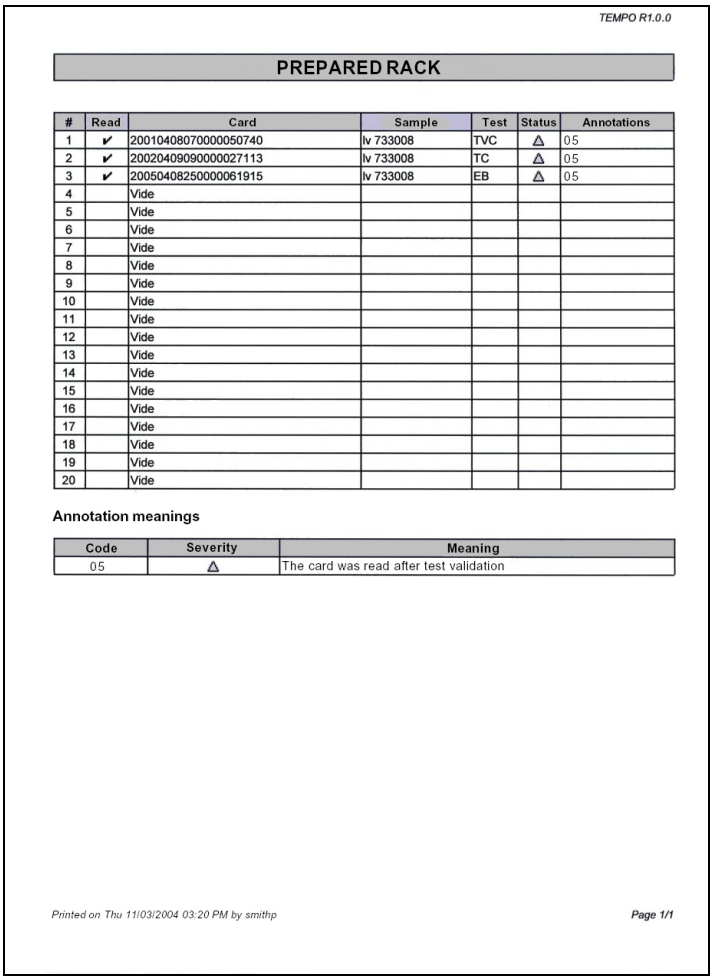
Figure 5-40: Inserting cards in the reading rack

IMPORTANT ! ***When preparing a rack, you must insert the cards in the rack in exactly the same position as is indicated on the computer.***

To read a rack that has been prepared using an empty rack, you need to validate its preparation by clicking on icon (see Validating rack preparation on page 5-50).

Printing a rack preparation report (information entered at the time of preparation)

Icon on the rack reading preparation screen is used to print the list of information entered during preparation of a rack (see Printing on page 5-5).



TEMPO R1.0.0

PREPARED RACK

#	Read	Card	Sample	Test	Status	Annotations
1	✔	20010408070000050740	lv 733008	TVC	△	05
2	✔	20020409090000027113	lv 733008	TC	△	05
3	✔	20050408250000061915	lv 733008	EB	△	05
4		Vide				
5		Vide				
6		Vide				
7		Vide				
8		Vide				
9		Vide				
10		Vide				
11		Vide				
12		Vide				
13		Vide				
14		Vide				
15		Vide				
16		Vide				
17		Vide				
18		Vide				
19		Vide				
20		Vide				

Annotation meanings

Code	Severity	Meaning
05	△	The card was read after test validation

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Figure 5-41: Example of a rack preparation report (information entered during preparation)

5

Validation and modification of a prepared rack

Before being able to read a rack that has been prepared, you must validate it.

Note: When preparing a rack, as soon as you select a slot position for reading, you can validate the rack. Make sure you select all the slot positions you want to read before validating the rack preparation.

Validating rack preparation

To validate rack preparation on the rack reading preparation screen:

- Click on icon (Validate).

  The flashing icon appears in the status bar and "START" is displayed at the bottom of the screen.

  The data are no longer accessible on the rack reading preparation screen, and the rack can be read.

  A rack can be modified before reading (see Modifying a validated rack on page 5-51).

IMPORTANT ! ***Once a prepared rack is validated, you must not read other racks. It is imperative to read the prepared rack.***

Modifying a validated rack

To modify a validated rack:

- Click on icon (Modify).

  The flashing icon disappears from the task bar.

  The data are now accessible on the rack reading preparation screen and the rack can no longer be read.

- Modify the rack in the same way as when preparing a rack using an empty or existing rack.

- Validate the rack preparation again so that it is taken into account when the rack is read (see Validating rack preparation on page 5-50).

Reading a prepared rack

Reading of a prepared rack is performed in the same way as rack reading (see Reading ***TEMPO*** ® cards on page 5-18).

When the prepared rack is read, it is deleted from the rack reading preparation screen.

*Note: If a rack has been modified while still in the **TEMPO** ® **Reader**, it is not necessary to remove it before starting the reading.*

6 Export, backup, archiving and audit trail browsing

IMPORTANT ! ***The user is responsible for setting up an export and backup policy that will enable saving of data.***

It is recommended to perform data export at least once a week.

The computer which contains the database must be operating during the backup procedure (generally the TEMPO ® Reader computer).

Note: *The complete database should be exported in **TED** format if there is a possibility that the update of the **TEMPO** ® software programs will affect the database. In this way, once the software programs have been updated, the **TEMPO** ® database can be imported with the guarantee that the data it contains are complete and unmodified.*

Backup of the database and audit trail is performed automatically on the hard disk.

Chapter contents:

- Presentation 6-2
- Exporting test data 6-4
- Backup 6-6
- Archiving 6-11
- Copying 6-13
- Deleting 6-15
- Browsing audit trail files using the "Audit Browser" application 6-17

Presentation

This chapter presents the functions and applications of the ***TEMPO*** ® system which enable:

– Export of data from the database in a **TED file** (***TEMPO*** ® **E**xport **D**ata) using:

. ***TEMPO*** ® **Read**: Export of tests displayed on the screen (see Exporting test data on page 6-4).

. ***TEMPO*** ® **Admin**: Export of all the data in the base (see Importing and exporting data on page 8-14).

Note: An integrity control guarantees that the export file has not been damaged or modified.

– Automatic backup (see Backup on page 6-6):

. Copies result data and system data to a backup directory.

. Purges samples except those which have at least one test that is not validated or that was prepared less than one week previously.

. Purges rack readings which are prior to the last 25 readings.

. Moves audit trail files to a backup directory.

– Database archiving: transfers backup data to a removable, rewritable storage medium (see Archiving on page 6-11).

Note: The removable, rewritable storage media to use are CD-RW and DVD+RW (see Appendix 1: General information on CD-RW and DVD+RW).

– Audit trail file archiving: transfers backup data to a removable, rewritable storage medium (see Archiving audit trail files on page 6-12)

– Duplicate the database and audit trail files on a removable, rewritable storage medium (see Copying database backups on page 6-13 and Copying audit trail files on page 6-14).

– Delete the database and audit trail files (see Deleting database backups on page 6-15 and Deleting audit trail files on page 6-16).

This chapter also describes the **"Audit Browser"** application (see Browsing audit trail files using the "Audit Browser" application on page 6-17).

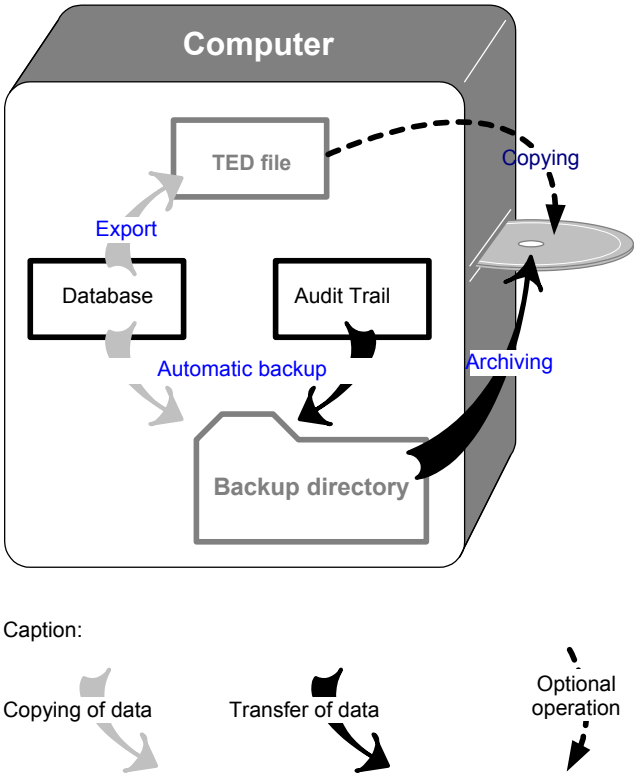


*Figure 6-1: Principle of export, backup and archiving of the **TEMPO** ® system data*

IMPORTANT! ***After archiving and copying to removable storage media, use the Windows browser to check that the data are present.***

Exporting test data

This function is used to export test data that are displayed on the test result management screen.

The data are exported in computer files in **CSV** format (**C**omma **S**eparated **V**alue) (which can be imported by Microsoft ® Excel and other office software) or **TED** format (***TEMPO*** ® **E**xport **D**ata) which can only be used by the ***TEMPO*** ® system.

Files in **CSV** format keep the main test data and enable you, for example, to put forward arguments for reports or reviews.

Files in **TED** format keep all the test data (test configuration options and raw results). If performed periodically, data export enables you to generate reports *a posteriori* in accordance with the requirements of the **21CFR11** and **FDA** (**F**ood and **D**rug **A**dministration) regulations.

WARNING! ***It is recommended to export data at least once a week.***

In the ***TEMPO*** ® **Read** test result management window:

- Click on icon .

  The Export results dialog box opens:

Figure 6-2: Export results dialog box

- Select the required export format: **CSV** or **TED**.

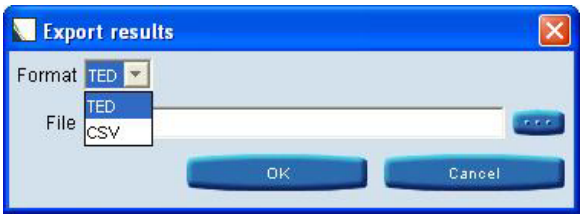


Figure 6-3: Selecting the export format

Note: Icon [...] opens a browser window which enables you to select the destination folder for the export file.

- Name the file.
- Click on [OK] to save the file.

*Note: With **TEMPO ® Read**, this function can only be used to export data displayed on the screen.*

Backup

Automatic backup

Backup of the database and audit trail files is automatically performed on the hard disk.

The configuration options for this backup are set when the ***TEMPO*** ® system is installed and started up. The configuration options concern:

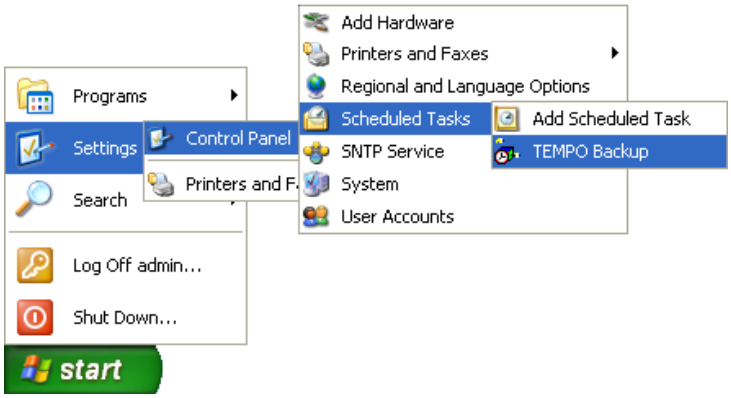
– the backup start time,

– the backup frequency (every 1, 2, 4 or 8 days).

Note: By default, automatic backup is performed every day at 1 a.m.

To modify parameter settings for automatic backup, on the Windows desktop:

- Use the Menu "Start / Settings / Control panel / Scheduled tasks / TEMPO Backup".



The automatic backup parameter settings window is displayed.

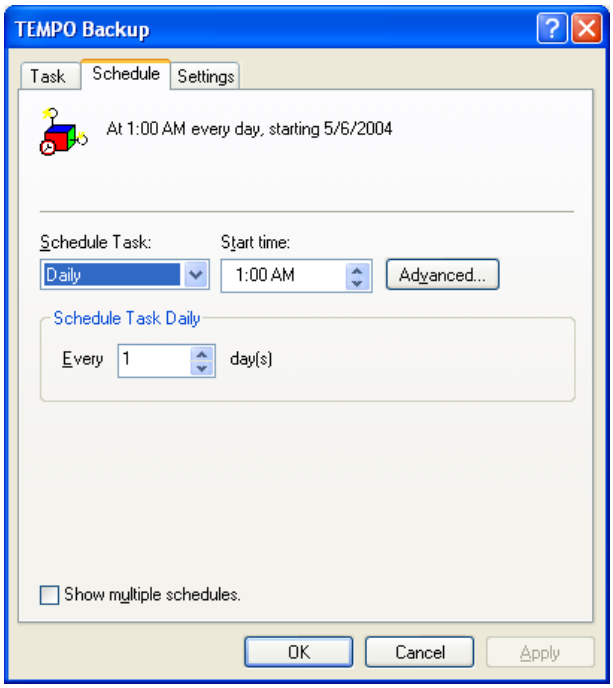
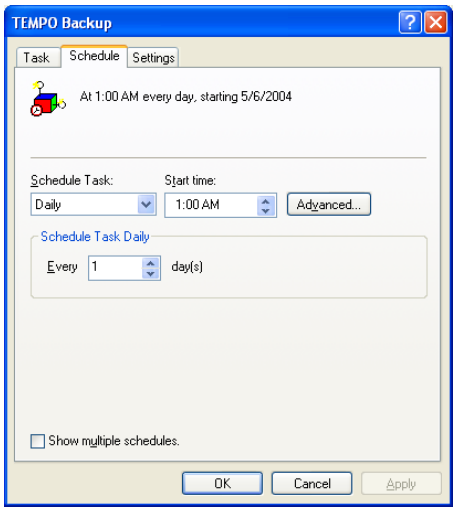


Figure 6-4: Automatic backup parameter settings window

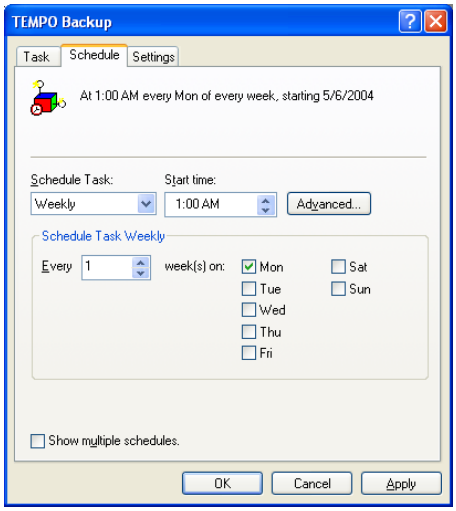
- Select the tab "Schedule" and modify the settings for automatic backup.

Parameter settings can be modified to perform automatic backup at the following frequencies:

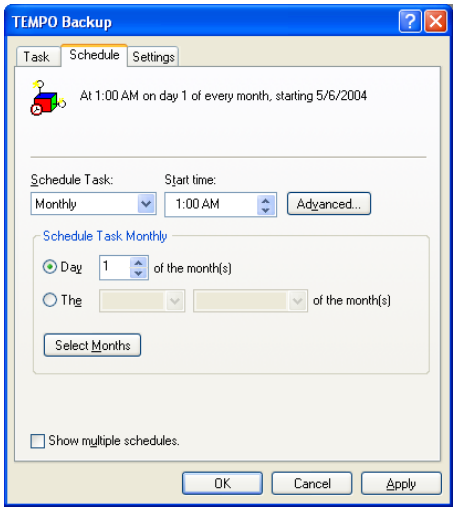
– daily,



– weekly,



– monthly.

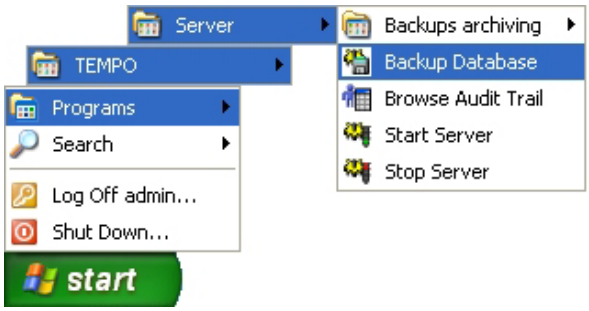

TEMPO Backup
Task
Schedule
Settings
At 1:00 AM on day 1 of every month, starting 5/6/2004
Schedule Task:
Start time:
Monthly
1:00 AM
Advanced...
Schedule Task Monthly
Day
1
of the month(s)
The
of the month(s)
Select Months
Show multiple schedules.
OK
Cancel
Apply

Manual backup

IMPORTANT! ***Only a user with an ADMINISTRATOR profile can perform manual backup.***

To perform manual backup:

- Select "Start / Programs / TEMPO / Server / **Backup Database**".



A window is displayed to indicate that the backup is in progress.

When the backup is finished, the window closes.

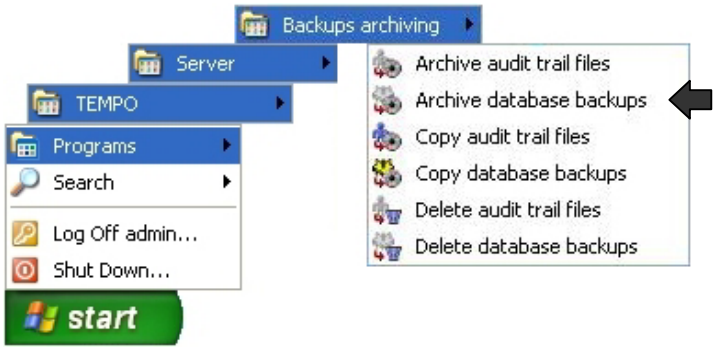
Archiving

Archiving database backups

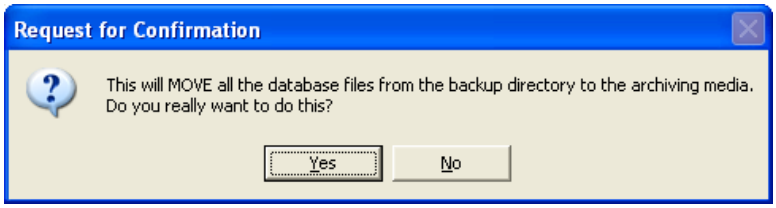
This function is used to store database backups on an external storage medium: the backup is moved to a removable, rewritable storage medium.

To archive database backups:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Archive database backups**".



A dialog box opens:



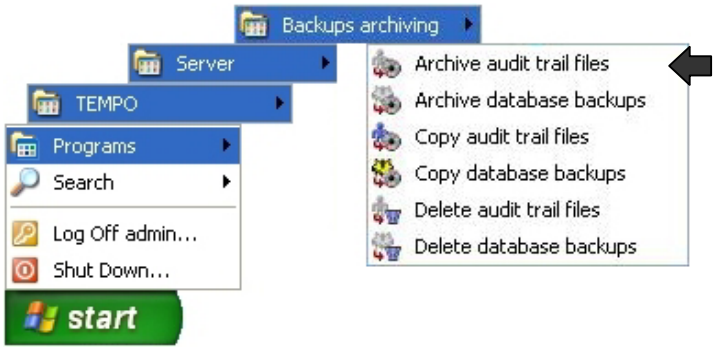
- Click "**Yes**" to archive or "**No**" to cancel.

Archiving audit trail files

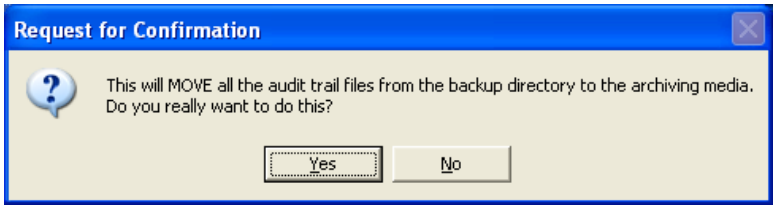
This function is used to store audit trail files on an external storage medium: the backup is moved to a removable, rewritable storage medium.

To archive the audit trail files:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Archive audit trail files**".



A dialog box opens:



- Click "**Yes**" to archive or "**No**" to cancel.

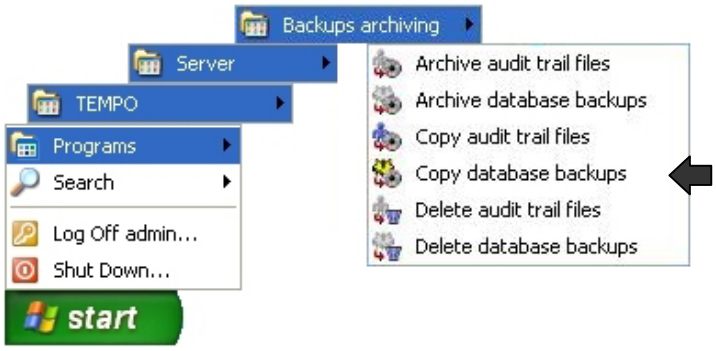
Copying

Copying database backups

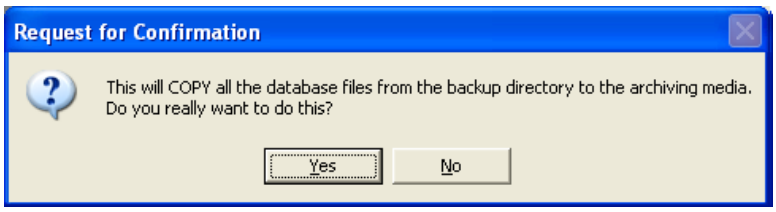
This function is used to store the database backup on an external storage medium: the backup is copied to a removable, rewritable storage medium.

To copy the database backups:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Copy database backups**".



A dialog box opens:



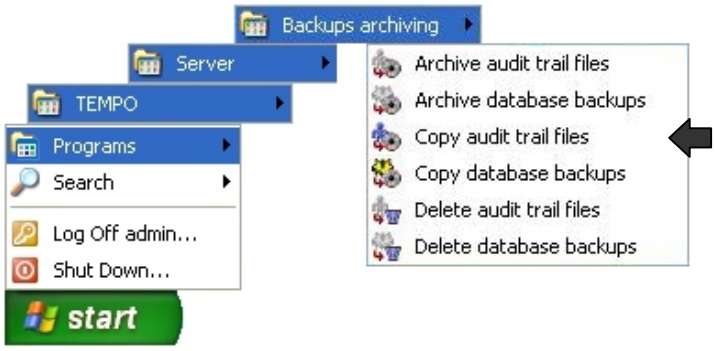
- Click "**Yes**" to copy or "**No** to cancel.

Copying audit trail files

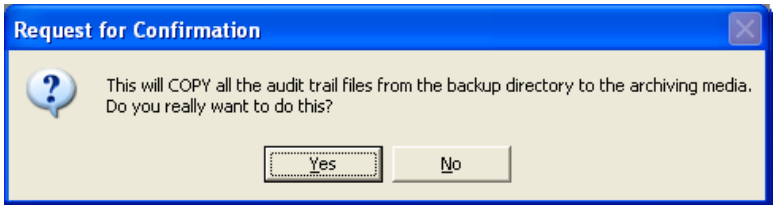
This function is used to store audit trail file backups on an external storage medium: the backup is copied to a removable, rewritable storage medium.

To copy audit trail files:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Copy audit trail files**".



A dialog box opens:



- Click "**Yes**" to copy or "**No**" to cancel.

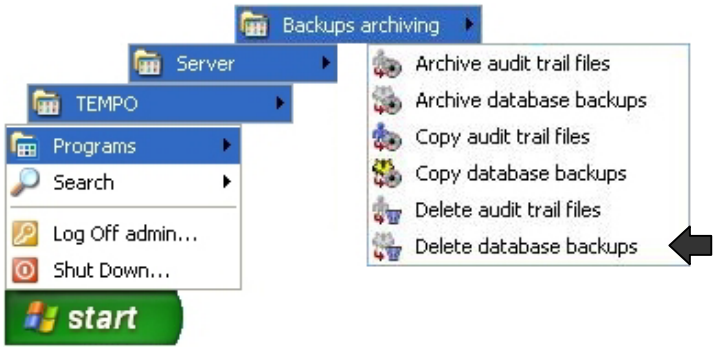
Deleting

Deleting database backups

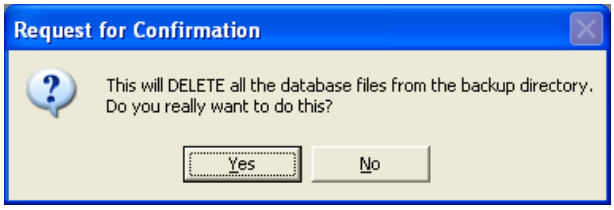
The delete database backups function is used to delete database backups from the computer.

To delete the database backups:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Delete database backups**".



A dialog box opens:



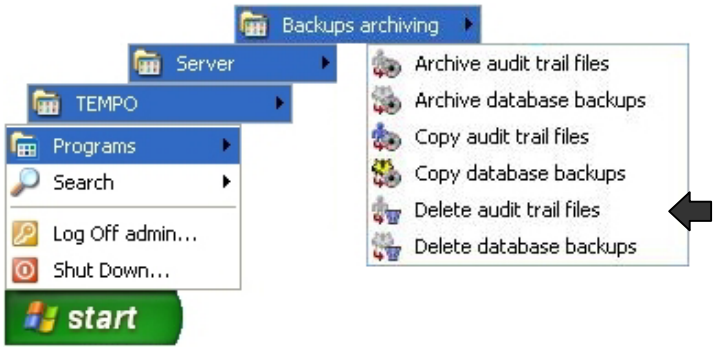
- Click "**Yes**" to delete or "**No**" to cancel.

Deleting audit trail files

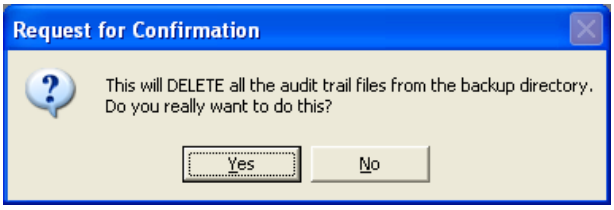
This function is used to delete audit trail files from the computer.

To delete audit trail files:

- Select "Start / Programs / TEMPO / Server / Backups archiving / **Delete audit trail files**"



A dialog box opens:



- Click "**Yes**" to delete or "**No**" to cancel.

Browsing audit trail files using the "Audit Browser" application

Introduction

The "Audit Browser" application is separate from ***TEMPO*** ®. It is used to view the audit trail files present on the server (computer) or archived on removable media (CD and DVD).

To view the audit trail files:

- Open the "Audit Browser" application (see Opening the "Audit Browser" application on page 6-18).
- Open the audit trail files (see Opening audit trail files (display) on page 6-20).
- Set display filter parameters if required (see Filtering displayed data on page 6-41).

Note: The order in which files are opened and filters are configured can be reversed.

Display filter parameters can therefore be set before audit trail files are opened.

Opening the "Audit Browser" application

In the Menu "Start / Programs / TEMPO / Server / Browse Audit Trail":

- Open the "Audit Browser" application.

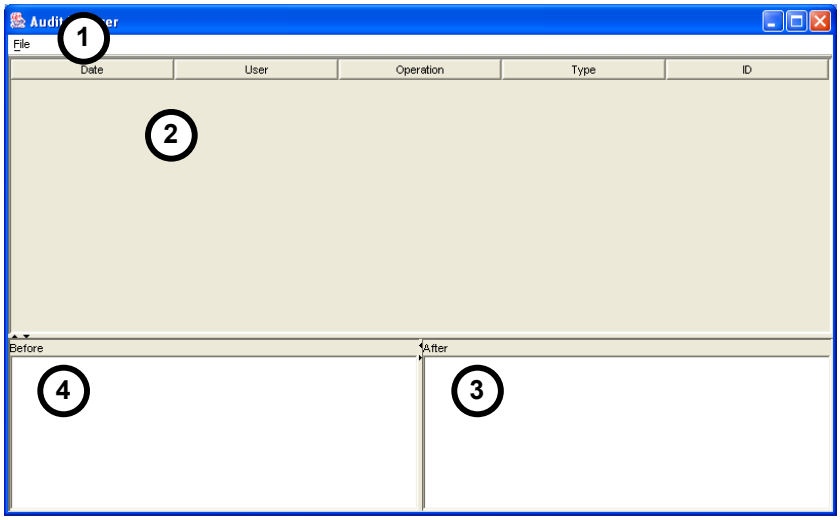


Figure 6-5: Main "Audit Browser" application screen

The main "Audit Browser" application screen consists of:

1. a menu for performing various commands (opening audit trail files, filtering displayed data, etc.).
2. a field for displaying the operations performed using the ***TEMPO*** ® (see Description of displayed data on page 6-23).
3. a field for displaying the attributes of the operations after creation or modification (see Description of displayed data on page 6-23).
4. a field for displaying the attributes of the operations before modification (Voir Description of displayed data on page 6-23).

*Note: The fields for displaying the operation attributes **(3 et 4)** are filled in when an operation is selected **(2)**.*
*For a "Creation" operation, the field for displaying operation attributes before modification **(4)** is not filled in.*
*For a "Deletion" operation, the field for displaying operation attributes after modification **(3)** is not filled in.*

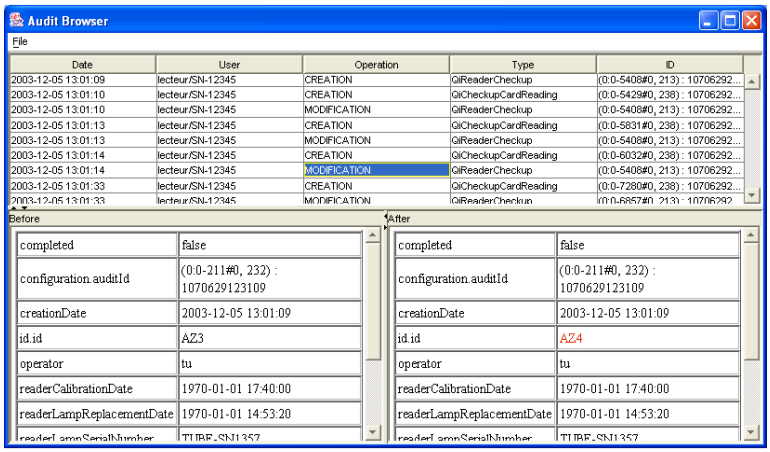
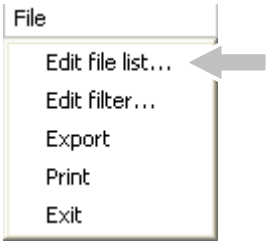


Figure 6-6: Example of the main "Audit Browser" application screen with displayed operations

Opening audit trail files (display)

To display the audit trail file selection window, from the "File" menu:

- Select "Edit file list…".



The audit trail file selection window is displayed:

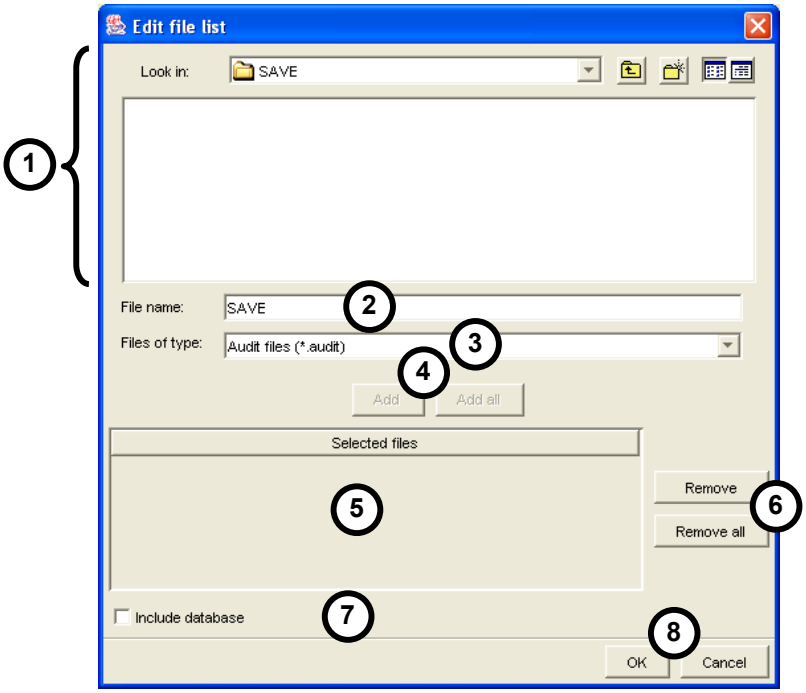


Figure 6-7: Audit trail file selection window

The screen for opening audit trail files consists of:

1. A field for selecting audit trail files or folders.
2. A field for displaying the selected audit trail files or folders.
3. A field for displaying the type (format) of audit trail files.
4. Two buttons which are used to:
   - Add the selected file(s) to the list of audit trail files to be opened **(5)**: Add.
   - Add the file(s) contained in the selected folder(s) to the list of audit trail files to be opened **(5)**: Add all.
5. A field for displaying the list of audit trail files to be opened.
6. Two buttons which are used to remove:
   - the selected file(s): Remove
   - all the files: Remove all

   from the list of audit trail files to be opened:
7. A check box which is used to open the audit trail files which are on the server.
8. Two command buttons which are used to:
   - Open the selected files in the list of audit trail files to be opened **(5)**: OK
   - Close the window for selecting audit trail files without opening any files: Cancel

*Note: To remove a file from the list **(5)**, select it and use the* Remove *button . The* Remove all *button is used to delete all the files from the list **(5)**.*

To open audit trail files:

- Select the file(s) or the audit trail file folder(s) to be opened **(1)**.
- Select the type (format) of files to be opened **(3)**.
- Click on button **(4)** Add or Add all to add the files to the list.
- Check that the files to be opened are in the list **(5)**.
- Repeat the operation for any new files.

If you want to remove files from the list:

- Select the files.
- Click on button **(6)** Remove.

or

- Click on button **(6)** Remove all to remove all the files.

To open the audit trail file which is on the server:

- Select the "Include database" **(7)** check box.

- Click on button **(8)** OK.

Description of displayed data

After audit trail files have been opened, the main "Audit Browser" application screen displays the various operations performed on the ***TEMPO*** ® **(1)**.

Note: If filter parameters were set before the audit trail files were opened, the displayed data will be filtered.

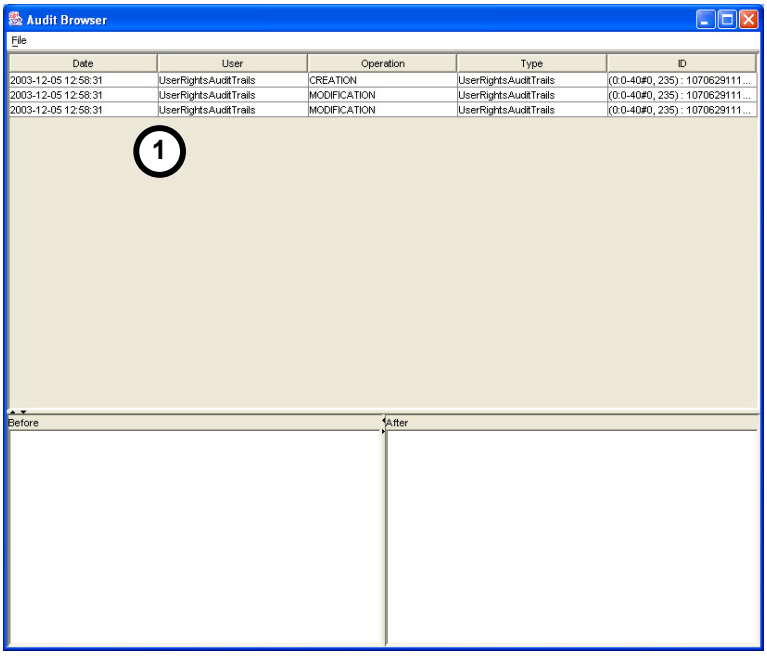
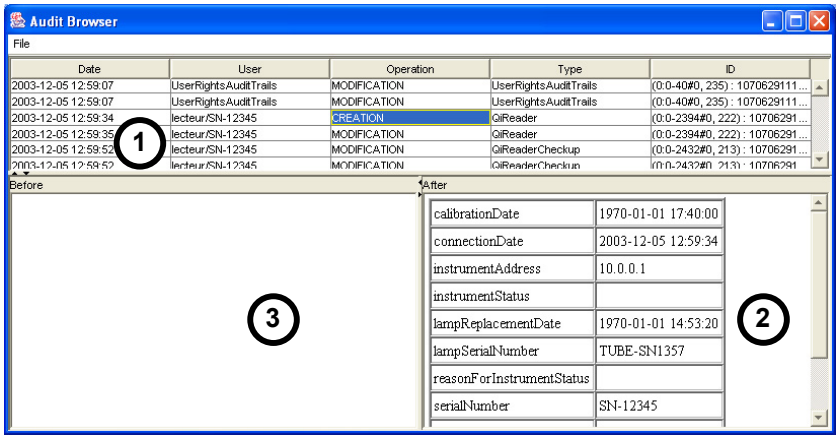
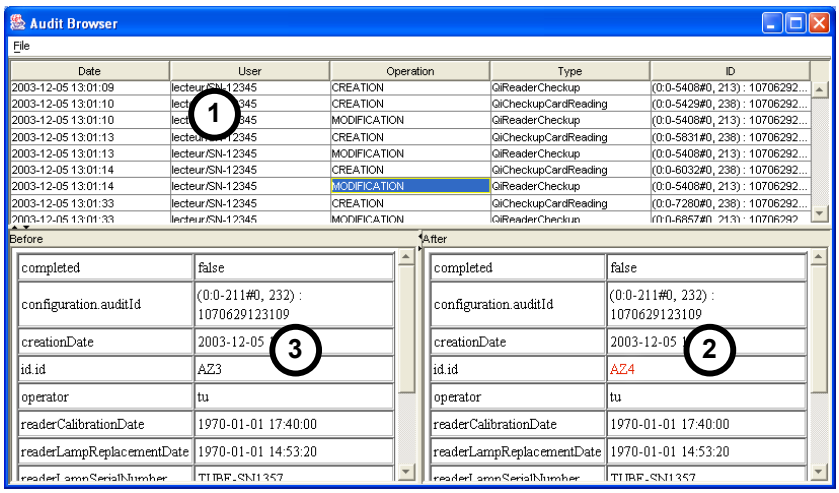


Figure 6-8: Main "Audit Browser" screen with displayed operations

When a "CREATION" operation is selected, its attributes are displayed in field **(2)**.

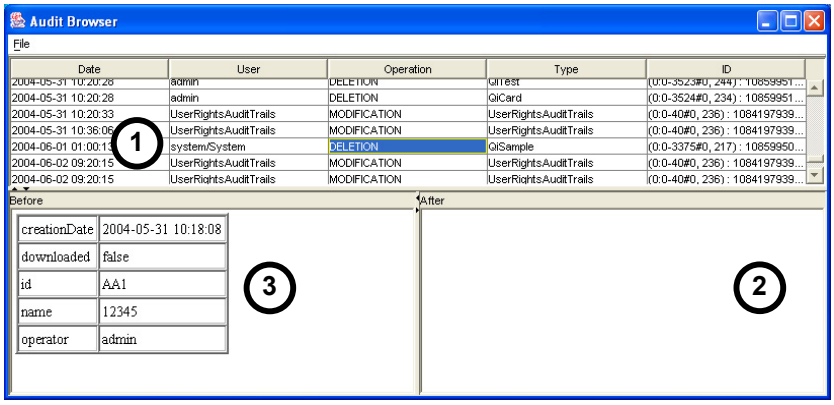


When a "MODIFICATION" operation is selected, its attributes are displayed in field **(2)** and field **(3)**.



*Note: In field **(2)** modified data appear in red.*

When a "DELETION" operation is selected, its attributes are displayed in field **(3)**.



Operation types and attributes

The following table shows the types of operations performed on the ***TEMPO*** ® and their attributes.

Type		Attribute	
QiAlgorithmVersion	Algorithm used to convert card reading results to growth indicators.	ComplementaryReading Areas	Additional information used to compute card reading results.
		fullClassName	Full name of the class used to compute card reading results.
		name	Algorithm identifier.
		paramerMap.<parameter name>	Value of the parameter <parameter name>.
QiCard	Information on the card recorded on the ***TEMPO*** ® Preparation Station.	cardBarCode	Card barcode.
		cardReadings	Database identifier of the card readings performed.
		creationDate	Date and time of card creation on the ***TEMPO*** ® **Prep** software.
		MaximumDateForLate Reading	After this date, the status of the incubated card will change to "ERROR" and the card reading will be annotated “Card read too late".
		MaximumDateForNormal Reading	After this date, the status of the incubated card will change to "WARNING".
		MinimumDateForNormal Reading	Before this date, the card reading will be annotated "Card read too early".

Type		Attribute	
		numberOfPremature Readings	Number of premature card readings already performed (i.e. read before the minimum date for normal reading).
		operator	Name of the user who was logged into ***TEMPO*** ® **Read** when the rack was read.
		test.auditId	Database identifier of the test performed.
		vialBarCode	Barcode of the vial associated with the card.
QiCardGeometry	Information on ***TEMPO*** ® card geometry.	name	Card geometry identifier.
		scannedAreas	List of database identifiers for the scanned areas of the card to be processed.
QiCardReading	***TEMPO*** ® card reading.	annotations	List of annotations associated with card readings.
		cardBarCode	Card barcode.
		creationDate	Date and time the card reading was performed.
		id	Card reading identifier.
		operator	Name of the user who was logged in when the rack was read.
		premature	Premature reading: – “true” if the card was read too early – “false” if the card was read too late.
		rackPosition	Position of the card in the incubation rack.

Type		Attribute	
		rawResult	Card reading results generated by the ***TEMPO*** ® **Reader**.
		readerSerialNumber	Serial number of the ***TEMPO*** ® **Reader**.
		readerVersion	Version of the ***TEMPO*** ® **Reader** at the time of reading.
		status	Card reading status: – “ok”. – “warning”. – “error”.
QiCheckupCardInfo	Information on the card used to check the ***TEMPO*** ® **Reader**	cardGeometry.auditId	Database identifier of the card geometry used for card reading.
		cardVersion	Version of the card.
		id	Card check identifier.
		passNumber.<index>.auditId	Database identifier of the parameter settings to be applied to a ***TEMPO*** ® **Reader** check card.
		testType	Test type indicating the kind of fluorescent solution in the card.
QiCheckupCardReading	Card reading performed during a ***TEMPO*** ® **Reader** check.	annotations	List of annotations associated with card reading.
		cardBarCode	Card barcode.
		growthResults.<index>.status	Status of growth results for the group of wells.
		growthResults.<index>.values	Well values for the group of wells.

Type		Attribute	
		growthResults.<index>.wellGroupName	Name of the group of wells.
		id.id	Card reading identifier.
		passNumber	Card reading cycle number.
		rackPosition	Position of the card in the incubation rack.
		rawResult	Card reading result generated by the ***TEMPO*** ® **Reader**.
		status	Card reading status: – “ok”. – “warning”. – “error”.
QiCheckupConfiguration	Configuration parameters used for the ***TEMPO*** ® **Reader** check.	id.id	Configuration identifier.
		passCount	Number of times the rack must be read.
		rackPosition.<N>.auditId	Database identifier of the configuration to be applied for card position N.
		version	Version of the ***TEMPO*** ® **Reader** check configuration.
QiCheckupParameterSet	Configuration parameters to be used for a card reading that contributes to the ***TEMPO*** ® **Reader** check.	algorithmVersion.auditId	Database identifier of the algorithm used to process check card results.
		extractionConfigurationMap.B.auditId	Database identifier of the extraction configuration used for the card background.

Type		Attribute	
		extractionConfigurationMap.L.auditId	Database identifier of the extraction configuration used for the large wells of the card.
		extractionConfigurationMap.M.auditId	Database identifier of the extraction configuration used for the medium wells of the card.
		extractionConfigurationMap.S.auditId	Database identifier of the extraction configuration used for the small wells of the card.
		id.id	Parameter set identifier.
		wellGroupMap.L.auditId	Database identifier of the group of wells corresponding to large wells.
		wellGroupMap.M.auditId	Database identifier of the group of wells corresponding to medium wells.
		wellGroupMap.S.auditId	Database identifier of the group of wells corresponding to small wells.
QiConcentration	Final test result.	_id.id	Result identifier.
		prefix	– 1 for “greater than”. – 2 for “lower than”. – 3 for “equal to”.
		value	Concentration computed in CFU/g.
QiExtractionConfiguration	Configuration parameters used by the ***TEMPO*** ® **Reader**	backgroundThreshold	Background threshold.
		garbageRatio	Ratio of incorrect data.

Type		Attribute	
	to scan the card and generate reading results.	name	Name of the extraction configuration.
		percentileThreshold	Percentage of "pixels" used to generate reading results.
		reading range	Reading range associated with a card reading.
QiRackPositionReading	Information on a rack reading.	annotations	List of the annotations that occurred during a card reading.
		cardBarCode	Card barcode.
		id	Rack position identifier.
		positionStatus	Status of rack position reading: – “PROCESSED” . – “SKIPPED” – "EMPTY ” – "UNREADABLE" – "IGNORED" – "ABORTED"
		readingStatus	Status of card reading: – “OK”. – “WARNING”. – “ERROR”.
		sampleName	Sample reference.
QiRackReading	Information on a rack reading.	creationDate	Date and time the ***TEMPO*** ® **Reader** "START" button was pressed.
		id	Rack reading identifier.

Type		Attribute	
		operator	Name of the user who was logged into ***TEMPO*** ® **Read** when the "START" button was pressed.
		rackPositionReadings	Database identifier of the rack position readings performed.
		readerSerialNumber	Serial number of the ***TEMPO*** ® **Reader**.
		readerVersion	Version of the ***TEMPO*** ® **Reader**.
		stationId	Number of the station connected to the ***TEMPO*** ® **Reader**.
QiReader	Information on the ***TEMPO*** ® **Reader** connected to the Reading Station computer.	calibrationDate	Date of the last calibration performed on the ***TEMPO*** ® **Reader**.
		connectionDate	Date of the last connection of the ***TEMPO*** ® **Reader** to the Reading Station computer.
		instrumentAddress	IP address of the ***TEMPO*** ® **Reader**.
		instrumentStatus	Status of the ***TEMPO*** ® **Reader**.
		lampReplacementDate	Date of the last replacement of the ***TEMPO*** ® **Reader** UV lamp.
		lampSerialNumber	Serial number of the ***TEMPO*** ® **Reader** UV lamp.

Type		Attribute	
		reasonForInstrumentStatus	***TEMPO*** ® **Reader** error codes responsible for the change of status.
		serialNumber	Serial number of the ***TEMPO*** ® **Reader**.
		stationAddress	IP address of the Reading Station associated with the ***TEMPO*** ® **Reader**.
		stationName	Name (actually a number) of the Reading Station computer associated with the ***TEMPO*** ® **Reader**.
		version	Version of the ***TEMPO*** ® **Reader**.
QiReaderCheckup	***TEMPO*** ® **Reader** check results	annotations	List of annotations for the ***TEMPO*** ® **Reader** check.
		comment	Comments for the ***TEMPO*** ® **Reader** check.
		completed	Indicates whether the ***TEMPO*** ® **Reader** check has been completed.
		configuration.auditId	Database identifier of the configuration used to perform the ***TEMPO*** ® **Reader** check.
		creationDate	Date and time the ***TEMPO*** ® **Reader** check was started.
		id.id	***TEMPO*** ® **Reader** check identifier.

Type		Attribute	
		operator	Name of the user who was logged into ***TEMPO*** ® **Check** when the ***TEMPO*** ® **Reader** check was started.
		readerCalibrationDate	Date and time of the last ***TEMPO*** ® **Reader** calibration.
		readerLampReplacementDate	Date of the last replacement of the ***TEMPO*** ® **Reader** UV lamp.
		readerLampSerialNumber	Serial number of the ***TEMPO*** ® **Reader** UV lamp.
		readerSerialNumber	Serial number of the ***TEMPO*** ® **Reader**.
		readerVersion	Version of the ***TEMPO*** ® **Reader**.
		stationName	Number of the station connected to the ***TEMPO*** ® **Reader**.
		status	Status of the ***TEMPO*** ® **Reader** check: – “ok”. – “warning”. – “error”.
QiRoiGroup	Configuration parameters for the group of ROI (Regions Of Interest) of the card.	backgroundRoi.posX	Coordinates of the upper-left corner of the background ROI.
		backgroundRoi.posY	
		backgroundRoi.sizeX	Size of the background ROI.
		backgroundRoi.sizeY	
		id	ROI group identifier.

Type		Attribute	
		name	Name of the ROI group.
		wellCount	Number of wells in the ROI group.
		wellSpace	Space between two wells.
QiSample	Sample recorded by the LIMS or the user on the Preparation Station.	creationDate	Date and time of sample creation.
		downloaded	– "true" if the test was created by the LIMS – "false" if the test was created by the user on the work station.
		id	Sample identifier.
		name	Sample reference.
		operator	Name of the user who (or the LIMS which) created the sample.
QiScannedArea	Information on a scanned area of the ***TEMPO*** ® card.	id	Scanned area identifier.
		roiGroups	ROI groups attached to this scanned area.
		type	Type of scanned area: – B for background. – S for small wells. – M for medium wells. – L for large wells.
QiSystemParameterSet	Configuration parameters relative to the ***TEMPO*** ® system.	configurationLoginTimeout	Time of inactivity (in minutes) on the ***TEMPO*** ® **Admin** software before automatic logout occurs.
		id	System parameter set identifier.

Type		Attribute	
		limsConnectionMode	LIMS mode: – "CONNECTED" or – "DISCONNECTED".
		preparationLoginTimeout	Time of inactivity (in minutes) on the ***TEMPO*** ® **Prep** software before automatic logout occurs.
		ReadingLoginTimeout	Time of inactivity (in minutes) on the ***TEMPO*** ® **Read** software before automatic logout occurs.
		resultValidationMode	Validation mode for test results: – "MANUAL" – "SEMI-AUTOMATIC" or – "AUTOMATIC"
		vialScanningMode	Preparation mode (vial barcode scanning mode): – "STANDARD" or – "OPTIMIZED"
QiTest	Test recorded by the LIMS or by the user on the Preparation Station.	comment	Comment on the test.
		creationDate	Date and time of test creation.
		dilution	Dilution chosen for the test.
		downloaded	"true" if the test was created by the LIMS.

Type		Attribute	
		finalRsultChosenByUser	– “true” if the final result was chosen by the user. – “false” if the ***TEMPO*** ® system chose the final result and generated any comments.
		id	Test identification.
		operator	Operator who created the test.
		resultStatus	Status of the result: – “ok”. – “warning” – “error”.
		sample.auditId	Database identifier of the sample with which the test is associated.
		testParameterSet.auditId	Database identifier of the configuration of the ***TEMPO*** ® test used.
		uploaded	"true" if the final test result was sent to the LIMS.
		validated	"true" if the test was validated.
QiTestParameterSet	Configuration parameters relative to the ***TEMPO*** ® kit.	algorithmVersion.auditId	Database identifier of the algorithm used to process card reading results.
		boxSize	Number of vials in a ***TEMPO*** ® kit.
		cardGeometry.auditId	Database identifier of the card geometry used to read the cards.

Type		Attribute	
		cardVersion	Card version.
		defaultDilution	Default dilution suggested at test creation.
		extractionConfigurationMap_B.auditId	Database identifier of the extraction configuration parameters used for background.
		extractionConfigurationMap_L.auditId	Database identifier of the extraction configuration parameters used for large wells.
		extractionConfigurationMap_M.auditId	Database identifier of the extraction configuration parameters used for medium wells.
		extractionConfigurationMap_S.auditId	Database identifier of the extraction configuration parameters used for small wells.
		id	Test identifier.
		interpretationOfDoubtfulValues	Value to be taken by the well if its processing leads to a doubtful status.
		maximumDurationForLateReading	Maximum duration of incubation before the status changes to "ERROR”.
		maximumDurationForNormalReading	Maximum duration of incubation before the status changes to "WARNING".

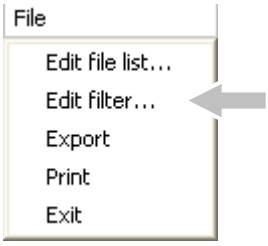
Type		Attribute	
		maximumNumberOfCard Readings	Maximum number of times a card can be read.
		minimumDurationForNormal Reading	Minimum duration of incubation before a test result can be validated.
		minimumProbability	Minimum probability for MPN calculation to lead to a validatable result.
		nominalIncubationDuration	Nominal incubation duration for ***TEMPO*** ® tests.
		possibleBoxSizes	Possible ***TEMPO*** ® kit box sizes.
		reference	Test reference.
		testType	Test type.
		version	Test version.
		wellGroupMap_L.auditId	Database identifier of the large well group.
		wellGroupMap_M.auditId	Database identifier of the medium well group.
		wellGroupMap_S.auditId	Database identifier of the small well group.
QiTestResult	Test result coming from a card reading.	annotations	List of annotations for the test results.
		cardReadings	Card readings involved in the test result.
		concentration	Germ concentration computed.
		growthResults	Growth indicators: – S for small wells, – M for medium wells, – L for large wells.

Type		Attribute	
		id	Test result identifier.
		probability	MPN probability.
		status	Result status: – “ok”. – “warning”. – "error”.
		test.auditId	Database identifier of the ***TEMPO*** ® test used.
QiWellGroup	Configuration parameters relative to the well groups on a ***TEMPO*** ® card.	id	Well group identifier.
		maximumUnexploitable Wells	Maximum number of unexploitable wells accepted in the group for the MPN calculation to be performed (and the result to be validated).
		parameterForGroupName	Name of the group of wells.
		wellVolume	Volume of the well (in millimeters).
UserRightsAuditTrails	Events related to the user access control.	action	Operation performed: – Check password. – Check access. – Login or logout.
		parameters	User name test.
		result	Result of the operation.

Filtering displayed data

To filter displayed data, from the "File" menu:

- Select "Edit filter…".



The Edit Filter window is displayed:

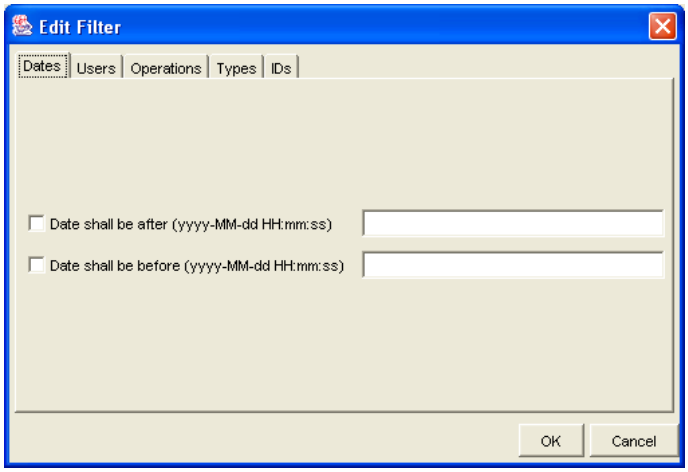


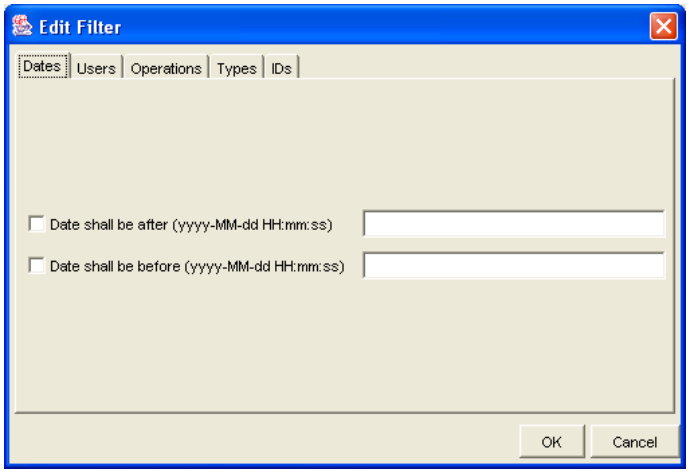
Figure 6-9: Edit Filter window

Note: For filter editing to be activated, you must enable the corresponding check box.

Edit Filter: Dates

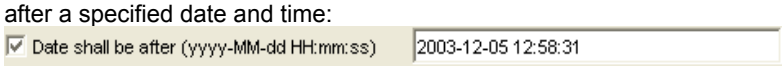
To filter data according to dates (date and time):

- Select the "Dates" tab in the Edit Filter window.



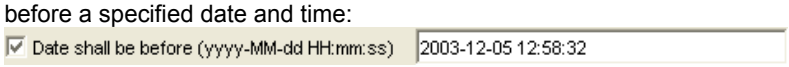
Displayed data can be filtered:

– after a specified date and time:



and/or

– before a specified date and time:



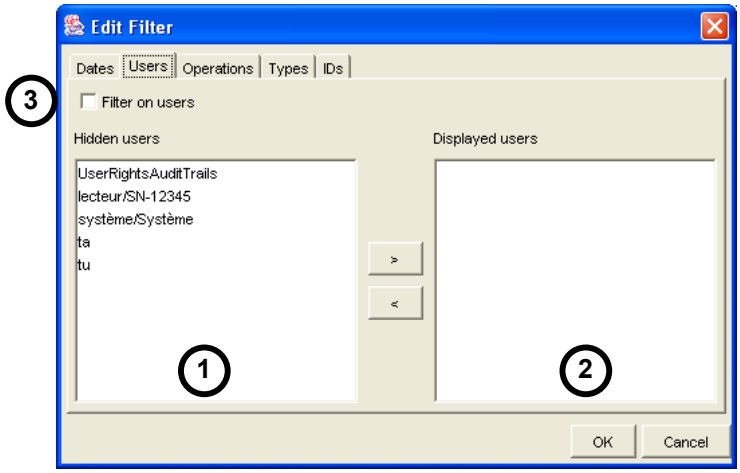
IMPORTANT! ***When entering the date and time you must respect the following format: Year (yyyy)-Month(MM)-Day(dd) Hour(HH):Minute(mm):Second(ss).***

- Click on OK to validate the filter parameters or on another tab to continue editing.

Edit Filter: Users

To filter data according to users:

- Select the "Users" tab in the Edit Filter window.



The screen for filtering on users consists of two main fields:

1. Users for whom data is not displayed: Hidden users.

2. Users for whom data is displayed: Displayed users.

Note: For filtering to be activated, you must select check box ***(3)*** *"Filter on users".*

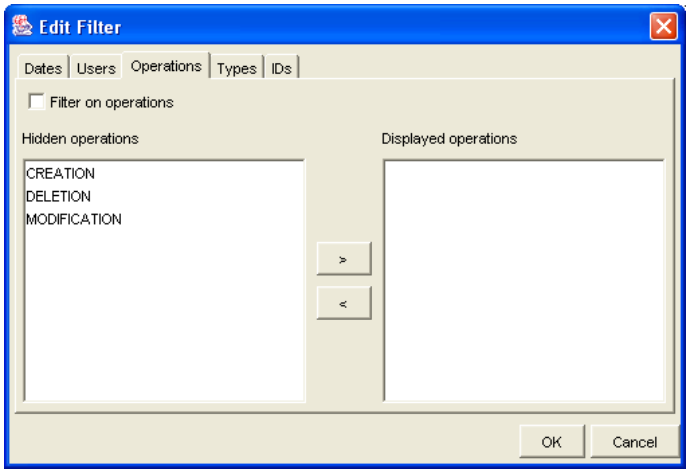
To tranfer users from one field to another:

- Select the user(s).
- Click on button > or <.
- Click on OK to validate the filter parameters or on another tab to continue editing.

Filter parameters: Operations

To filter data according to operations performed:

- Select the "Operations" tab in the "Edit Filter" window.



Filtering using the "Operations" tab is identical to filtering using the "Users" tab (see Edit Filter: Users on page 6-43).

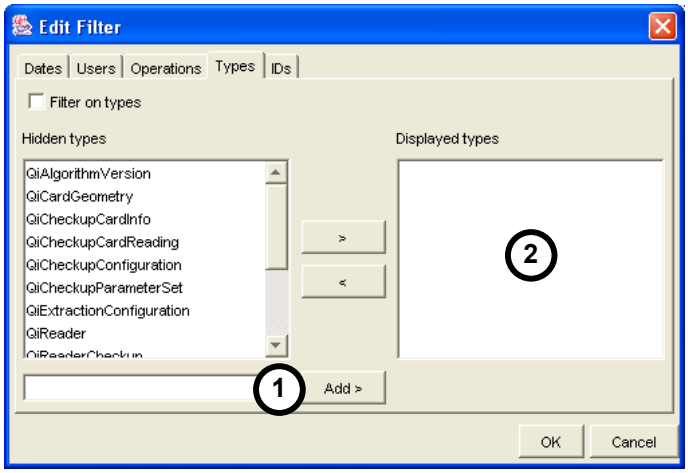
*Note: The main operations performed on the **TEMPO** ® system are:*

- *Creation of operations: CREATION.*
- *Deletion of operations: DELETION.*
- *Modification of operations: MODIFICATION.*

Edit Filter: Types

To filter data according to the types of operations:

- Select the "Types" tab in the "Edit Filter" window.



Filtering using the "Types" tab is identical to filtering using the "Users" tab (see Edit Filter: Users on page 6-43).

Note: If filtering is performed before audit trail files are opened, no operation type is visible. In this case, the types of operations have to be entered:

- *Enter the type of operation in the entry field **(1)**.*
- *Click on* Add > .

*The type of operation entered is displayed in the "Displayed types" field **(2)**.*

- *Enter the other types of operations in the same manner.*

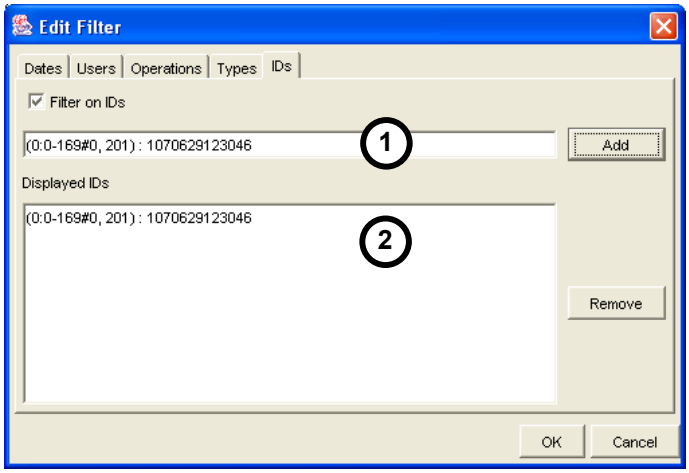
- Click on OK to validate the filter parameters or on another tab to continue editing.

Note: The different types of operations are presented in Operation types and attributes on page 6-26.

Edit Filter: IDs

To display the window for filtering data according to IDs:

- Select "IDs" in the Edit Filter window.



To filter data according to IDs:

- Enter the ID in the entry field **(1)**.
- Click on Add

The ID entered is displayed in the "Displayed IDs" field **(2)**.

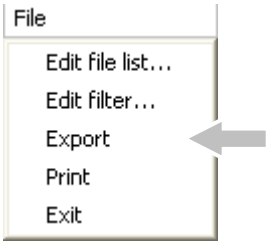
- Enter the other IDs in the same manner.
- Click on OK to validate the filter parameters or on another tab to continue editing.

Note: The Remove *button is used to delete selected IDs from the list.*

Exporting displayed data

To export data displayed on the main "Audit Browser" application screen, from the menu "File":

- Select "Export…".



The "Export as …" window is displayed:

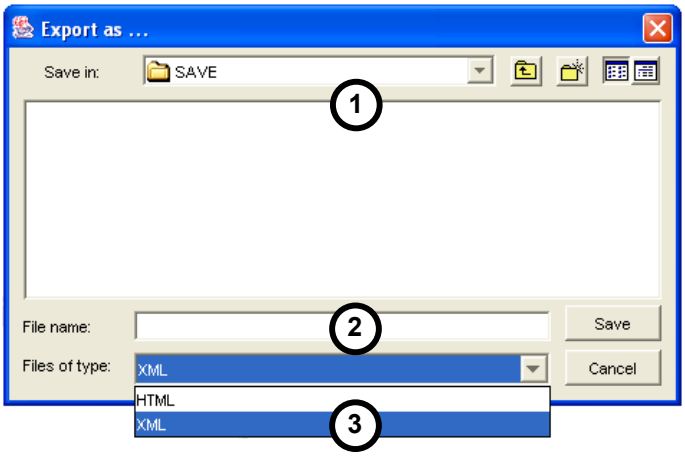


Figure 6-10: Export as … window

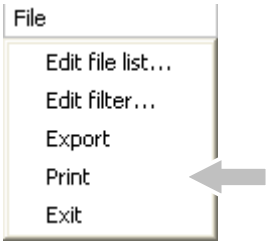
- Select the destination folder for the export file **(1)**.
- Enter the name of the export file **(2)**.
- Select the export format **(3)**: HTML ou XML.
- Click on Save to export.

Note: The export file in HTML format can be opened using an Internet Bowser such as Internet Explorer.

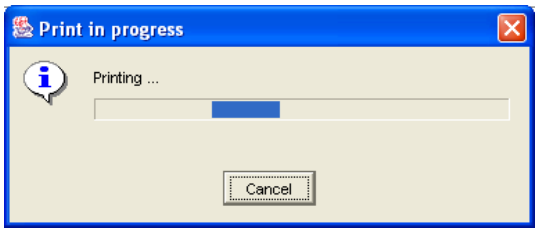
Printing displayed data

To print data displayed on the main "Audit Browser" application screen, from the menu "File":

- Select "Print".



A dialog box indicates that printing is in progress.



To cancel printing:

- Click on Cancel.

When preparation is completed, an HTML page is displayed with the data to be printed.

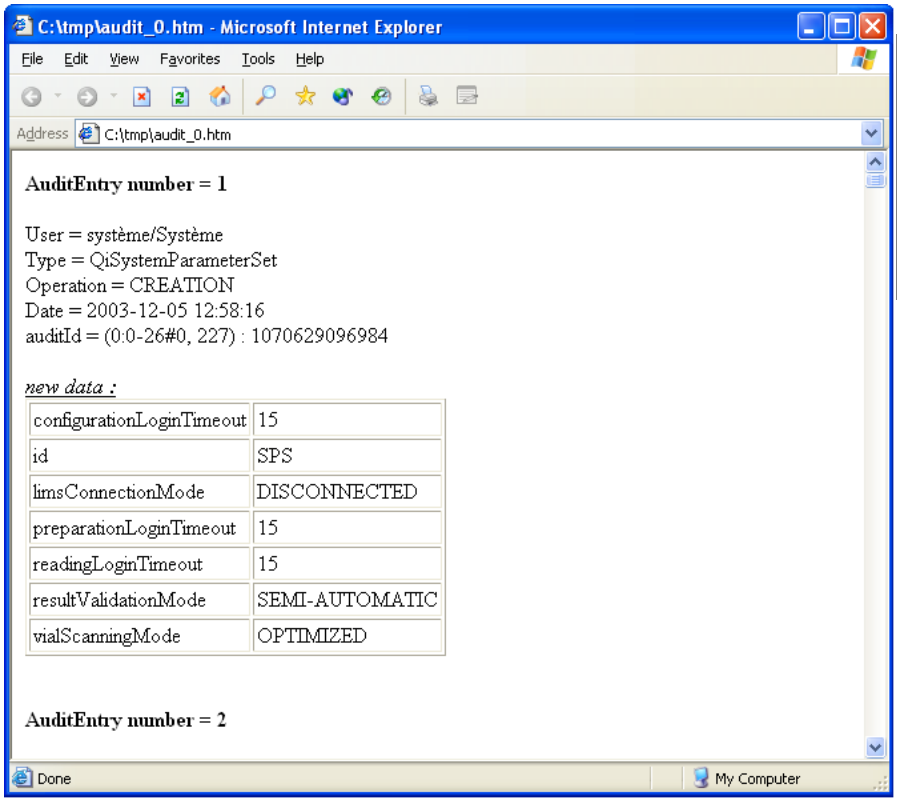


Figure 6-11: Internet Explorer: Window displaying data to be printed

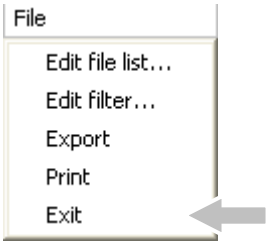
When the HTML page is displayed, a printing selection and configuration dialog box appears.

- Select and configure the printer if necessary.
- Start or cancel printing.
- Close the HTML page ( ).

Shutting down the "Audit Browser" application

To shut down the "Audit Browser" application, from the menu "File":

- Select "Exit".



The"Audit Browser" application shuts down.

7 User management

This chapter describes the operations to be performed by a user with an **ADMINISTRATOR** profile to:

- Create a new user account and assign user rights for the different ***TEMPO*** ® software programs.
- Unlock a user account after several unsuccessful attempts to enter the password.

IMPORTANT! ***User management operations can only be performed by a user with an ADMINISTRATOR profile, on the Reading Station computer (on the Reading Station computer which contains the knowledge base if a multi-station configuration is used).***
After the user management operations have been performed, if a work session has been opened by a user with an ADMINISTRATOR profile it must be shut down.

This chapter also explains how a user can change a password.

Chapter contents:

- User groups 7-2
- User rights 7-3
- Attaching users to user groups 7-5
- Creating a new user account 7-6
- Assigning user permissions and rights 7-9
- Disabling a user account 7-14
- Unlocking a user account 7-15
- Changing of a password by a user 7-16

User groups

In the Windows User Management function, a user group is an account containing other accounts called members (user accounts). The permissions and rights assigned to a group are also given to its members, which enables the sets of members to share the same possibilities.

A user account contains the information which defines a user under Windows and ***TEMPO*** ®, in particular:

- user name and password (required to open a session),
- the user group membership.

In the Windows and ***TEMPO*** ® User Management function, a user with an **ADMINISTRATOR** profile is mainly in charge of managing user accounts. He should also help users solve password problems and perform maintenance operations (archiving, copying, etc.).

Six main user groups are used with the ***TEMPO*** ® system:

- **Administrators**: management of users and backup operations.
- **Users**: use of Windows.
- **TEMPO_ADMIN**: management of ***TEMPO*** ® software programs (see Chapter 8 - Configuring the ***TEMPO*** ® software).
- **TEMPO_USER**: use of the ***TEMPO*** ® software programs.
- **BCI_ADMIN** and **BCI_ROUTINE**: see the **BCI Net** User's Manual

User rights

Two user profiles are authorized to perform operations on the ***TEMPO*** ® system:

- The **USER** profile can mainly perform routine operations.
- The **ADMINISTRATOR** profile can mainly perform configuration, management and routine operations.

The following table shows the rights of the two users.

RIGHT	USER	ADMINISTRATOR
Start the ***TEMPO*** ®: ***TEMPO*** ® **Filler**, ***TEMPO*** ® **Reader** hardware instruments.	**X**	**X**
Open a work session on the Preparation Station and Reading Station computers.	**X**	**X**
Delete tests created by a user.	**X**	**X**
Delete tests created by the LIMS.		**X**
Prepare, fill and read ***TEMPO*** ® cards.	**X**	**X**
Export test data (formats **CSV** and **TED**).	**X**	**X**
Perform manual backup of the database and Audit Trail.		**X**
Archive and delete database and Audit Trail backups.		**X**
Copy database and Audit Trail backups.	**X**	**X**
View the ***TEMPO*** ® computer system parameters.	**X**	**X**
Modify the ***TEMPO*** ® computer system parameters.		**X**

RIGHT	USER	ADMINISTRATOR
User management: – Create users. – Assign user rights and permissions. – Deactivate users. – Unlock user accounts.		**X**
Modify the password.	**X**	**X**
Perform user maintenance operations for the ***TEMPO*** ® system, in particular, configuration of the Preparation Station and Reading Station bacode readers.	**X**	**X**
Use the ***TEMPO*** ® **Check** software and ***TEMPO*** ® **QC** kit (vials and) to check the measurement performance of the ***TEMPO*** ® **Reader**.	**X**	**X**
Shut down the ***TEMPO*** ®: ***TEMPO*** ® **Filler**, ***TEMPO*** ® **Reader** hardware instruments.	**X**	**X**
Update ***TEMPO*** ® software.		**X**

Attaching users to user groups

Users with a **USER** profile are attached to the following groups:

- Users.
- TEMPO_USER.
- BCI_ROUTINE.

Users with an **ADMINISTRATOR** profile are attached to the following groups:

- Administrators.
- TEMPO_USER.
- TEMPO_ADMIN.
- BCI_ROUTINE.
- BCI_ADMIN.

WARNING! ***Users with an ADMINISTRATOR profile must not be attached to the "Users" group.***

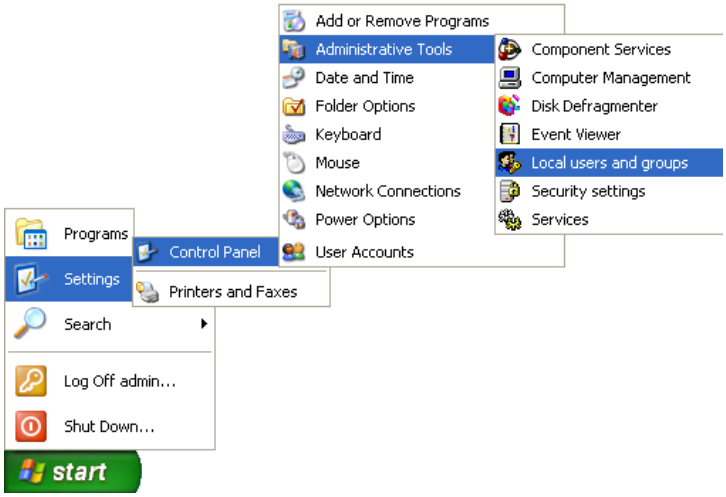
Creating a new user account

Only a user with an **ADMINISTRATOR** profile can create a user account.

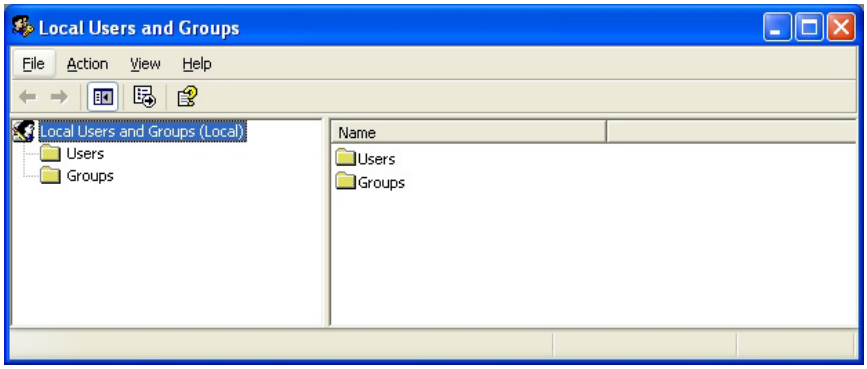
Note: *To perform administrative tasks without disconnecting a user, see Appendix 4: Performing administrative tasks without closing the **TEMPO** ® session on page 12-14.*

To access the User Management function:

- Select menu "Start / Programs / Administrative Tools / **Local users and groups**".

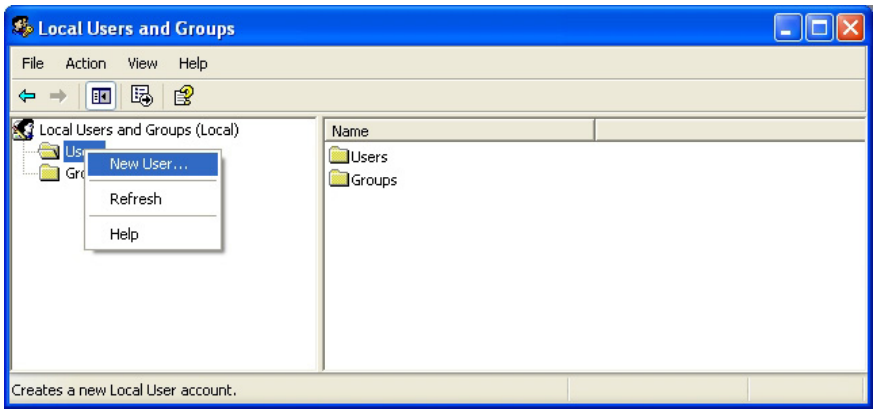


The Local Users and Groups window is displayed.

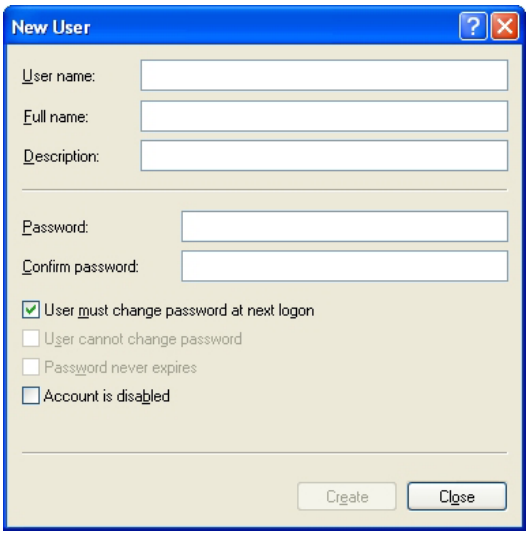


To display the dialog box for creating a new user account:

- Right-click on "Users" to display the context menu.
- Click on "New User…".



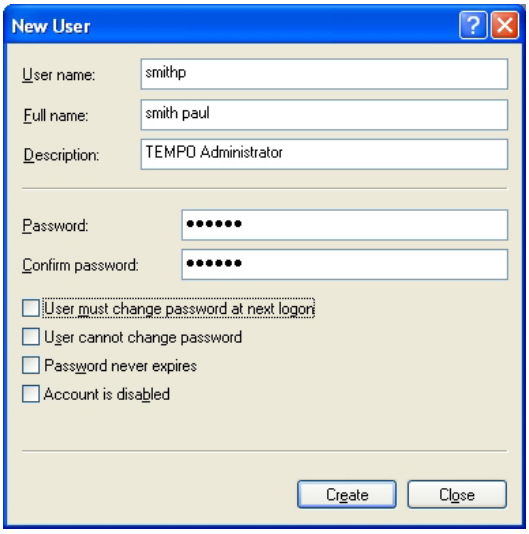
The "New User" dialog box is displayed.



- Enter:
  - The user's name, to open a work session.
  - The user's full name.
  - The description of the user (facultative).
  - The user's password.

Note: The password must include at least 8 characters.

- Indicate whether:
  - The user must change password at the next login.
  - The user cannot change password (not in accordance with 21CFR11 regulations).
  - The password never expires (not in accordance with 21CFR11 regulations).
  - The account is disabled.



- Click on "Create" to create the new user account.

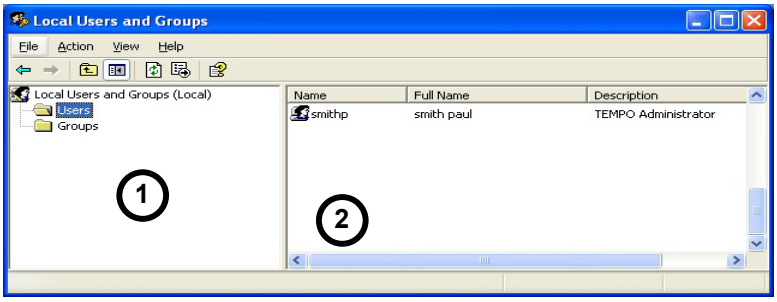
  The information entered and the options selected disappear from the screen.

- Click "Close" to close the window.

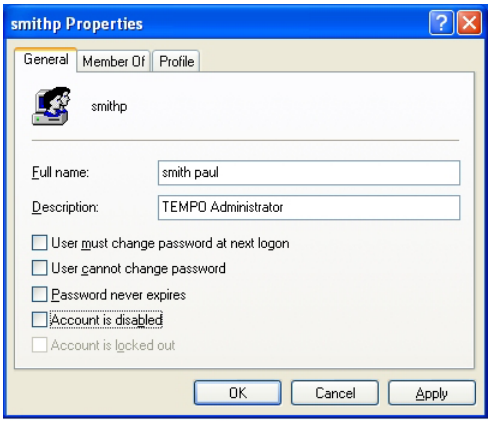
Assigning user permissions and rights

User permissions and rights are assigned by attaching the user to one or more user groups.

- Click on "Users" **(1)** and double-click on the desired user **(2)**.



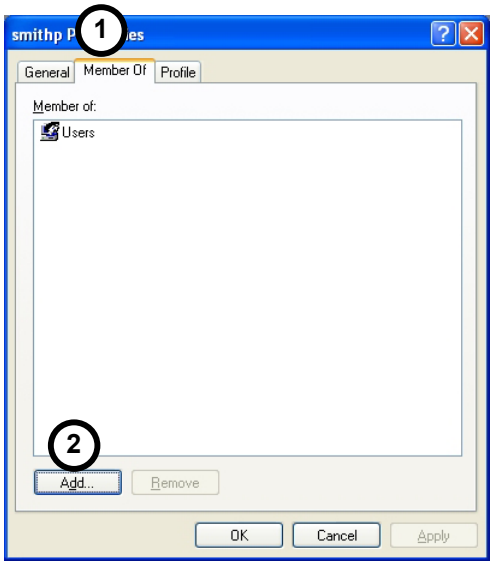
The user's Properties dialog box is displayed.



7

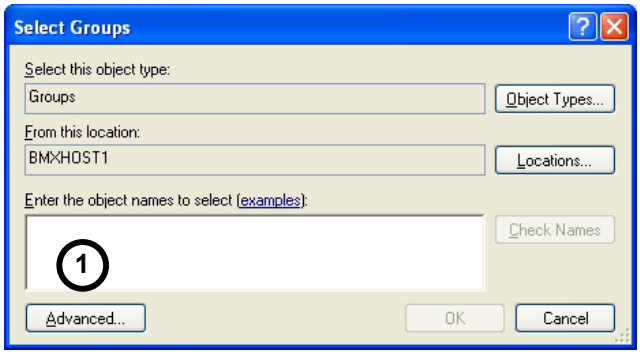
- Click on the "Member of" tab **(1)** to display the list of groups to which the user belongs.

Note: When a new user account is created, it is automatically a member of the "Users" group.



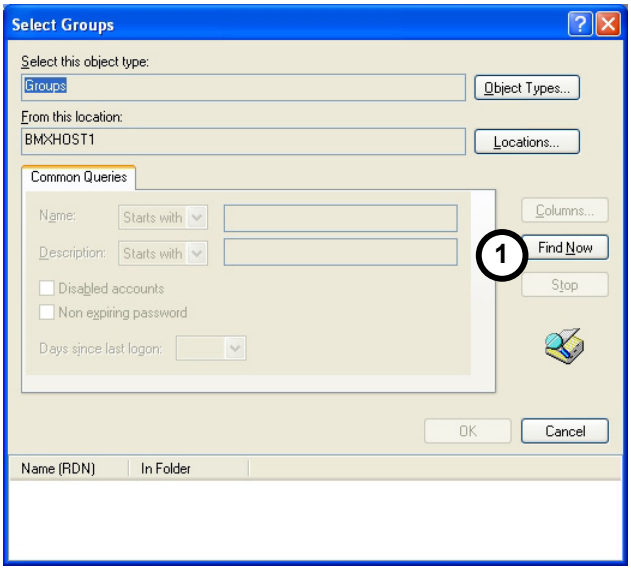
- Click on "Add" **(2)**.

The "Select Groups" window is displayed.



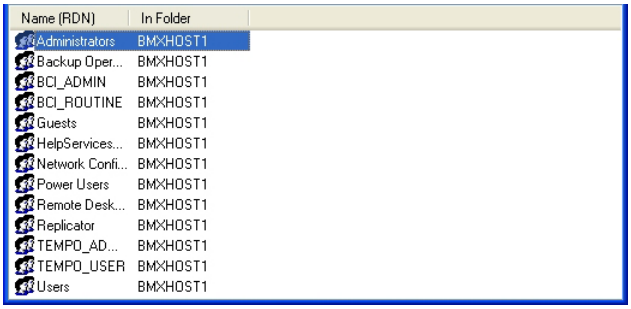
- Click on "Advanced…" **(1)**.

A second "Select Groups" window is displayed.



- Click on "Find Now" **(1)**.

The list of user groups is displayed at the bottom of the window.

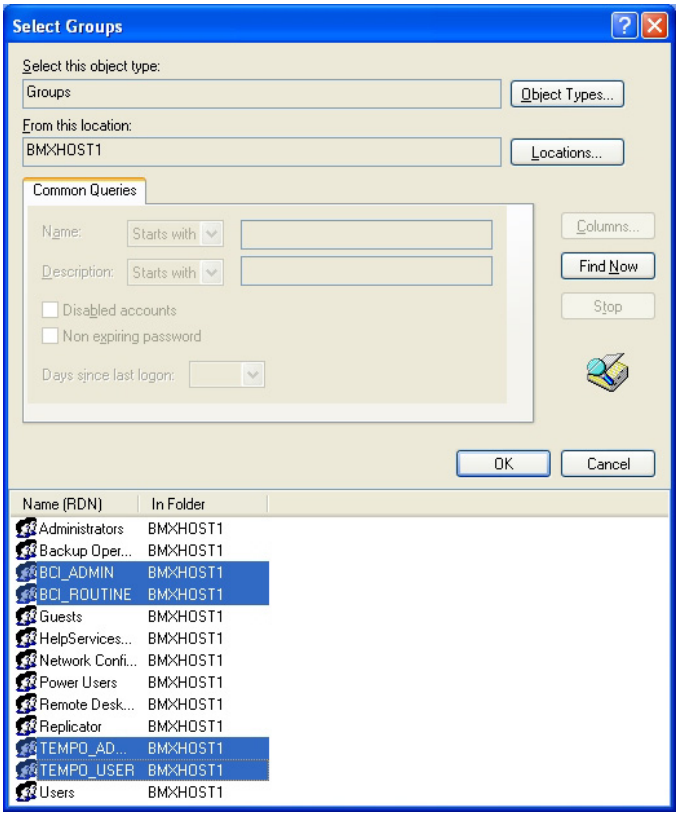


- Select the user groups to which the user will belong. (see Attaching users to user groups on page 7-5).

Note: Select the user group(s) by clicking on their name(s).

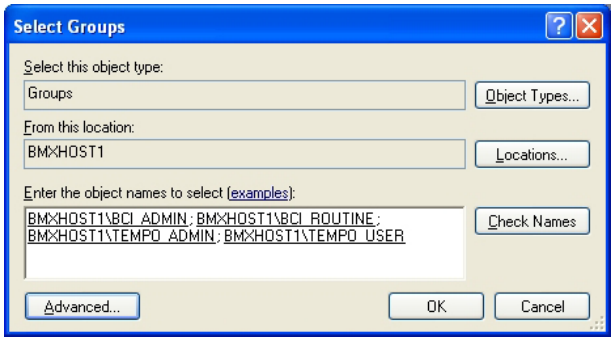
To select several groups:

- *Hold down the **<Ctrl>** key and click on the names you want.*



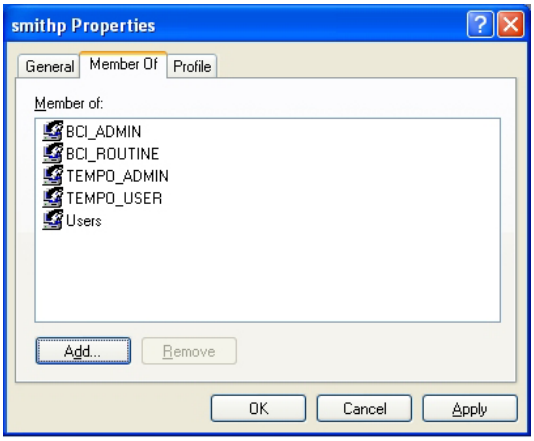
- Click "OK" to confirm.

The "Select Groups" window is displayed with the list of user groups.



- Click "OK" to confirm the user's group membership.

The user's Properties window is displayed with the list of user groups to which the user belongs.



- Click "OK" to confirm.

Note: To delete one of the user's memberships, in the Properties window (Member Of tab):

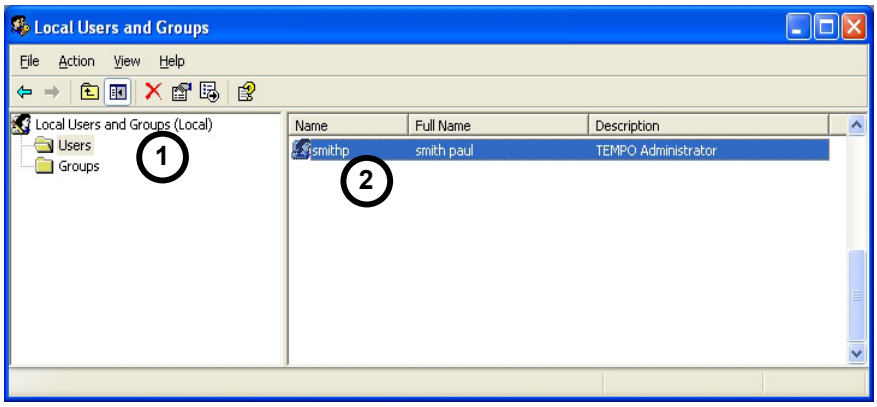
- *Select the group,*
- *Click on the "Remove" button.*

Disabling a user account

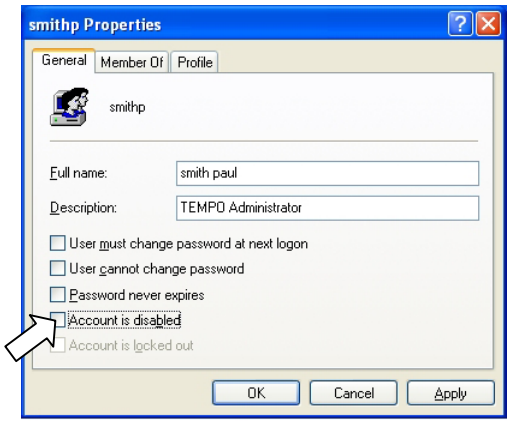
*Note: When a user no longer uses the **TEMPO** ® system, the user account should be disabled.*

To disable a user account, in the Local Users and Groups window:

- Click on "Users" **(1)** and double-click on the desired user **(2)**.



The user's Properties dialog box is displayed.



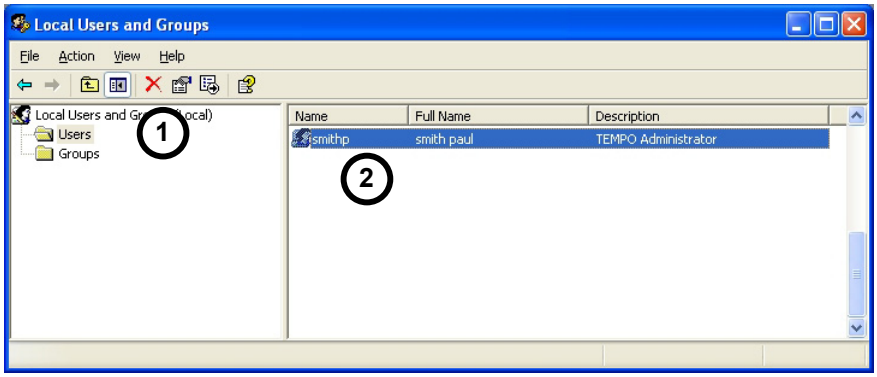
- Click on the "Account is disabled" check box.
- Click "OK" to confirm.

Unlocking a user account

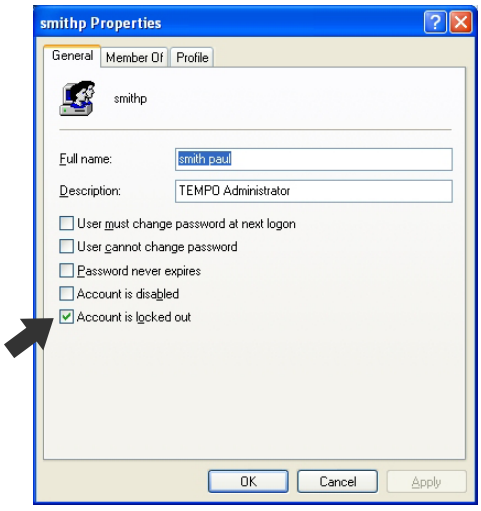
IMPORTANT ! ***After five unsuccessful attempts to enter the password, the user will not be able to open a work session as the account will have locked.***
It can only be unlocked by a user with an ADMINISTRATOR profile using the computer which contains the server (database).

To unlock a user account, in the Local Users and Groups window:

- Click on "Users" **(1)** and double-click on the desired user **(2)**.



The user's Properties dialog box is displayed.



- Deselect the "Account is locked out" check box.
- Click "OK" to confirm.

Changing of a password by a user

If the user with an **ADMINISTRATOR** profile has given permission (see Assigning user permissions and rights on page 7-9) a user can change a password:

- Simultaneously press **<Ctrl>**, **<Alt>** and **<Del>**.

The Windows security dialog box is displayed.

- Click on "Change password…".

The "Change Password" dialog box opens.

- Enter the user name, the old password and the new password (twice).

Note: The password must include at least 8 characters.

- Click "OK" to confirm the change of password.

The Windows Security dialog box is displayed again.

- Click "Cancel" to return to the ***TEMPO*** ® applications.

8 Configuring the *TEMPO* ® software

The ***TEMPO*** ® software configuration options can be modified by a user with an **ADMINISTRATOR** profile and viewed by a ***TEMPO*** ® user.

TEMPO ® **Admin** also allows a ***TEMPO*** ® user with an **ADMINISTRATOR** profile to export and import data. A ***TEMPO*** ® user can only export data.

Note: ***TEMPO*** ® **Admin** *can be started using either the Preparation Station or the Reading Station computer, but it is preferable to use the Reading Station computer.*

IMPORTANT! ***After the TEMPO software configuration options have been defined, if a work session has been opened by a user with an ADMINISTRATOR profile it must be shut down.***

This chapter deals with the following topics:

- Opening ***TEMPO*** ® **Admin** 8-2
- ***TEMPO*** ® **Admin** Welcome Screen 8-4
- Connection between the ***TEMPO*** ® system and the laboratory information system 8-6
- Preparation Station software 8-8
- Reading Station software 8-10
- Details on the ***TEMPO*** ® **Reader** 8-12
- Importing and exporting data 8-14

Opening *TEMPO* ® Admin

To open the ***TEMPO*** ® **Admin** application from the Windows desktop:

- Double-click on icon

on the Windows desktop.

or

- Use the Menu "Start / Programs / TEMPO / TEMPO Admin".

or

- Simultaneously press the keys **<Ctrl>**, **<Alt>** and **A**.

The ***TEMPO*** ® **Admin** start window is displayed.

Figure 8-1: ***TEMPO*** ® **Admin** start window

Following the start, the ***TEMPO*** ® **Admin** Login window opens.

Figure 8-2: ***TEMPO*** ® **Admin** Login window

To open ***TEMPO*** ® **Admin**:

- Enter the User name and password, identical to opening a ***TEMPO*** ® **Read** session (see Opening a work session on the Reading Station computer on page 5-2).
- Click on the "**Login**" button.

  TEMPO ® **Admin** opens and the Welcome Screen is displayed (see Description of the Welcome Screen on the Reading Station on page 5-7).

Note: The functions for automatic logout of the current work session, and incorrect user name and password entry management, are the same as those of ***TEMPO*** ® **Read** *(see Opening a work session on the Reading Station computer on page 5-2).*

TEMPO ® Admin Welcome Screen

The ***TEMPO*** ® **Admin** Welcome Screen includes:

1. An alarm field.

*Note: The **TEMPO** ® **Admin** alarm field is identical to that of **TEMPO** ® **Read**. It only indicates the status of the connection between the **TEMPO** ® system and the laboratory information system (see Alarm field on page 5-8).*

2. A navigation area (see Navigation area on page 8-5).
3. A work field.
4. A control area.
5. A status bar identical to that of ***TEMPO*** ® **Read** (see Status bar on page 5-11).

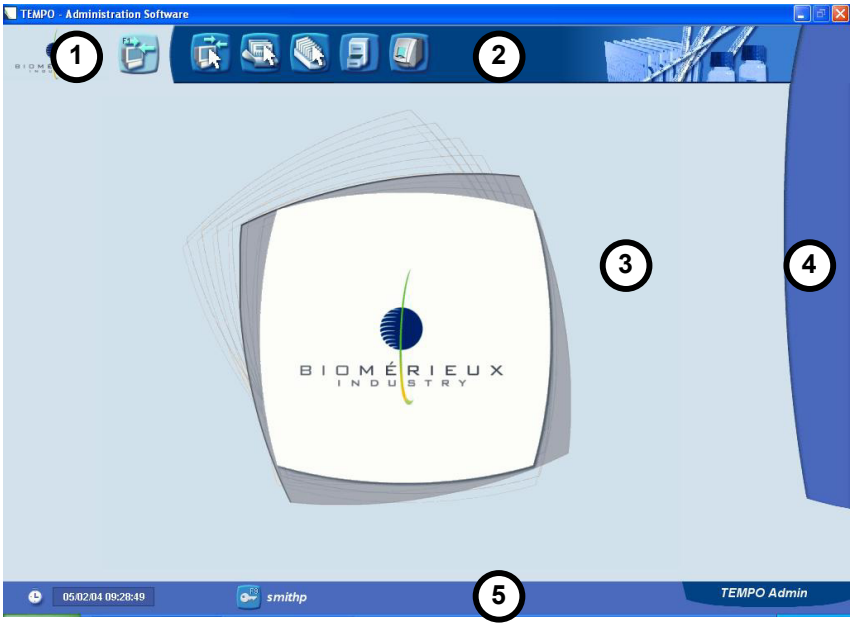


*Figure 8-3: **TEMPO** ® **Admin** Welcome Screen*

*Note: The alarm field, navigation area and status bar are the same for all the **TEMPO** ® **Admin** screens.*
The work field and control area vary according to the screen displayed.

Navigation area

The following icons in the navigation area give access to the screens for:

– Viewing and setting configuration options for the connection between the ***TEMPO*** ® system and the laboratory information system (see page 8-6).

– Viewing and setting configuration options for the ***TEMPO*** ® **Prep** software (see page 8-8).

– Viewing and setting configuration options for the ***TEMPO*** ® **Read** software (see page 8-10).

– Importing data into or exporting it from the ***TEMPO*** ® database (see page 8-14).

– Viewing information on the ***TEMPO*** ® **Reader** instruments connected (see page 8-12).

Connection between the *TEMPO* ® system and the laboratory information system

The screen for viewing and setting configuration options for the connection between the ***TEMPO*** ® system and the laboratory information system is accessed by clicking on icon in the navigation area.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, this screen includes:

1. A field for viewing the status of the connection between the ***TEMPO*** ® system and the laboratory information system.
2. A control area.

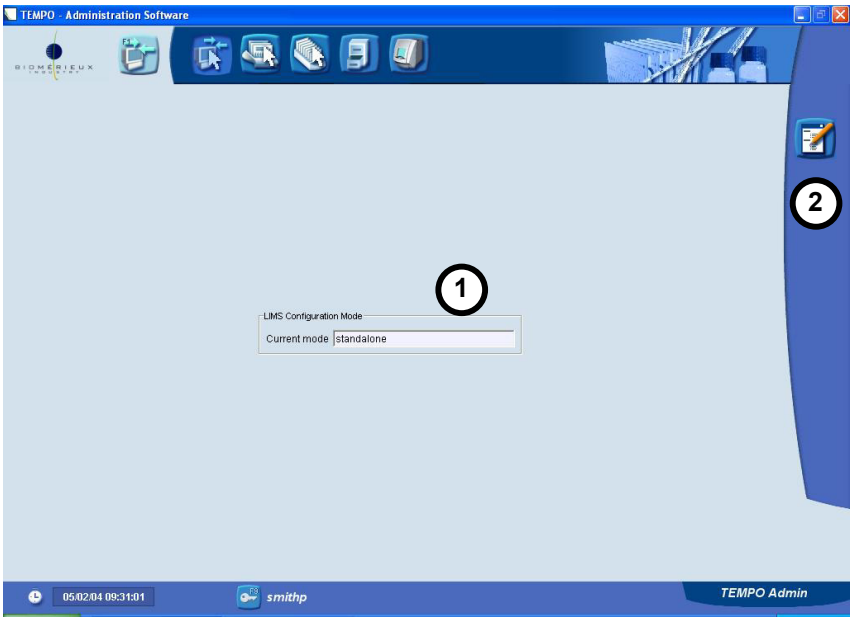


*Figure 8-4: Screen for viewing and setting configuration options for the connection between the **TEMPO** ® system and the laboratory information system*

Configuration of the connection between the *TEMPO* ® system and the laboratory information system

To display the dialog box for configuring the connection between the ***TEMPO*** ® system and the laboratory information system:

- Click on icon (Edit).

  The LIMS connection mode dialog box is displayed.

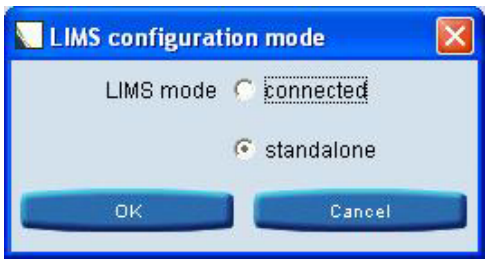


*Figure 8-5: Dialog box for configuring the connection between the **TEMPO** ® system and the laboratory information system*

To select the mode of connection between the ***TEMPO*** ® system and the laboratory information system:

- Click on the "connected" or "standalone" radio button.
- Click on to save the new connection configuration options or click on to keep the current options.

Preparation Station software

The screen for viewing and setting configuration options for the Preparation Station software is accessed by clicking on icon in the navigation area.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, this screen includes:

1. A field for viewing the configuration options for the Preparation Station software.
2. A control area.

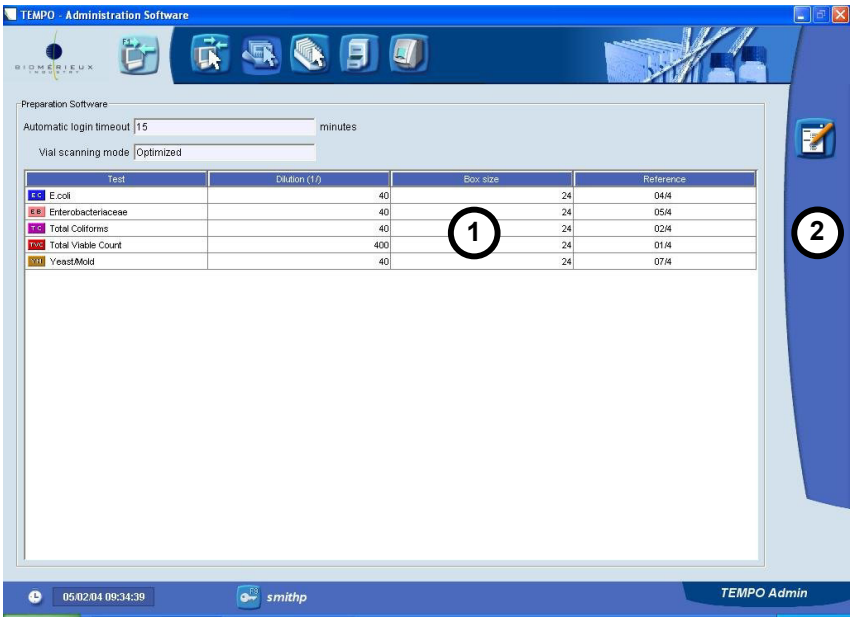


Figure 8-6: Preparation Station software configuration screen

Configuring the Preparation Station software

To display the Preparation Station software configuration dialog box:

- Click on icon (Edit).

The Preparation Station software configuration dialog box is displayed.

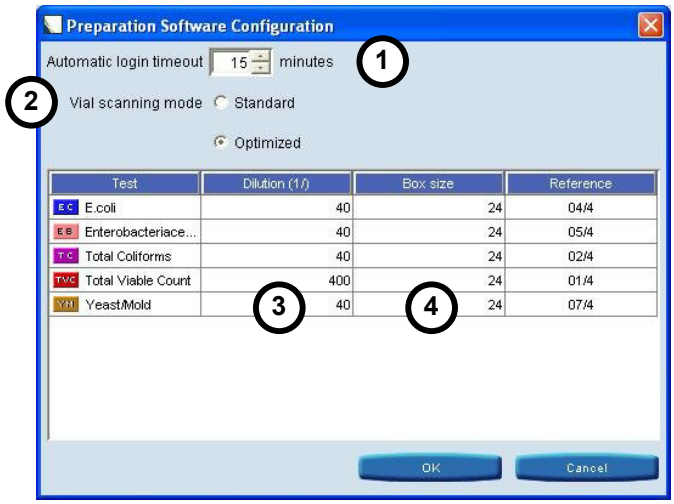


Figure 8-7: Preparation Station software configuration dialog box

The following configuration options can be modified in the Preparation Software Configuration dialog box:

1. Time before automatic logout of the current work session open on the ***TEMPO*** ® **Prep** software after a period of inactivity.
2. The vial scanning mode: standard or optimized (see Chapter 5 in the Preparation Station User's Manual).
3. The default dilution for each test.
4. The number of units in a box of vials.

WARNING! ***It is essential to define the number of vials in each box as this ensures that tests are entered correctly in optimized mode.***

- Set the required configuration options.
- Click on OK to confirm the new settings or click on Cancel to keep the current settings.

Note: For the new options to be taken into account, you must shut down and restart the Preparation Station computer.

Reading Station software

The screen for viewing and setting configuration options for the Reading Station software is accessed by clicking on icon in the navigation area.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, this screen includes:

1. A field for viewing the configuration options for the Reading Station software (automatic login timeout and result validation mode).
2. A control area.

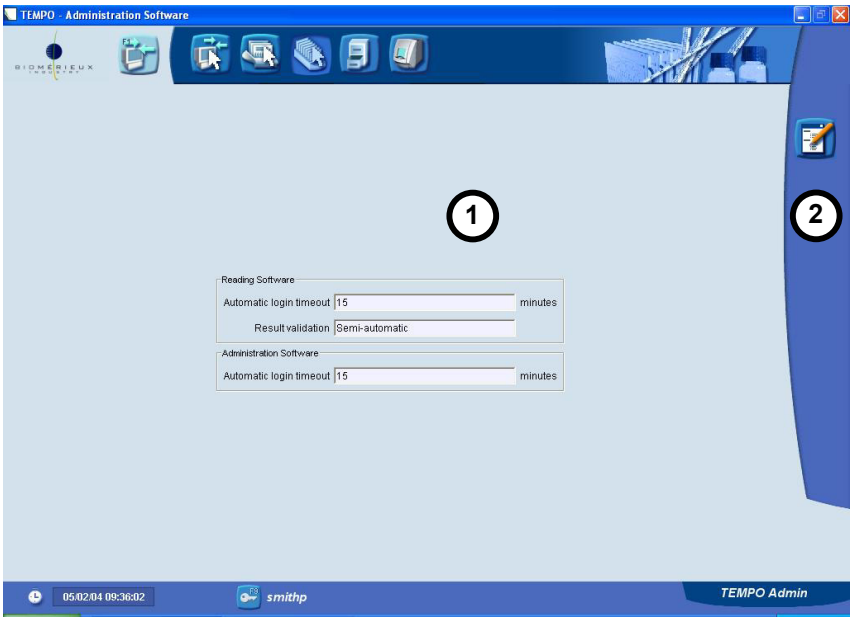


Figure 8-8: Reading Station software configuration screen

Configuring the Reading Station software

To display the Reading Station software configuration dialog box:

- Click on icon (Edit).

  The Reading Station software configuration dialog box is displayed.

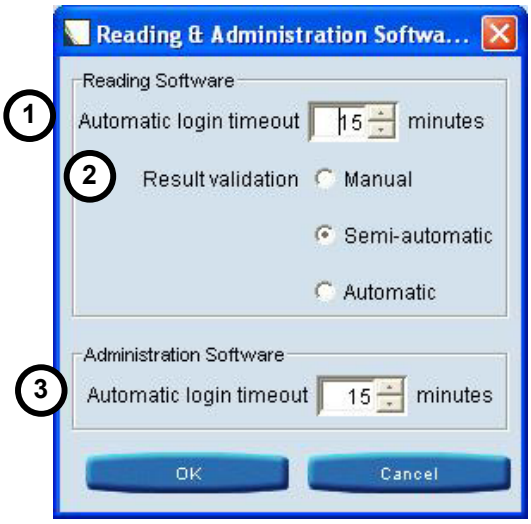
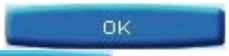


Figure 8-9: Reading Station software configuration dialog box

The following configuration options can be modified in the Reading Software Configuration dialog box:

1. Time before automatic logout of the current work session open on the ***TEMPO*** ® **Read** software after a period of inactivity.
2. Result validation mode: Manual, Semi-automatic or automatic (see Chapter 5 in the Preparation Station User's Manual).
3. Time before automatic logout of the current work session open on the ***TEMPO*** ® **Admin** software after a period of inactivity.

- Set the required configuration options.
- Click on 

to confirm the new settings or click on

to keep the current settings.

Note: For the new options to be taken into account, you must shut down and restart the Reading Station computer.

Details on the *TEMPO* ® Reader

The screen for viewing details on the ***TEMPO*** ® **Reader** is accessed by clicking on icon in the navigation area.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, this screen includes:

1. A field for displaying brief information on the ***TEMPO*** ® **Reader** instruments in the ***TEMPO*** ® configuration (serial number, instrument firmware version and station name).
2. A control area.

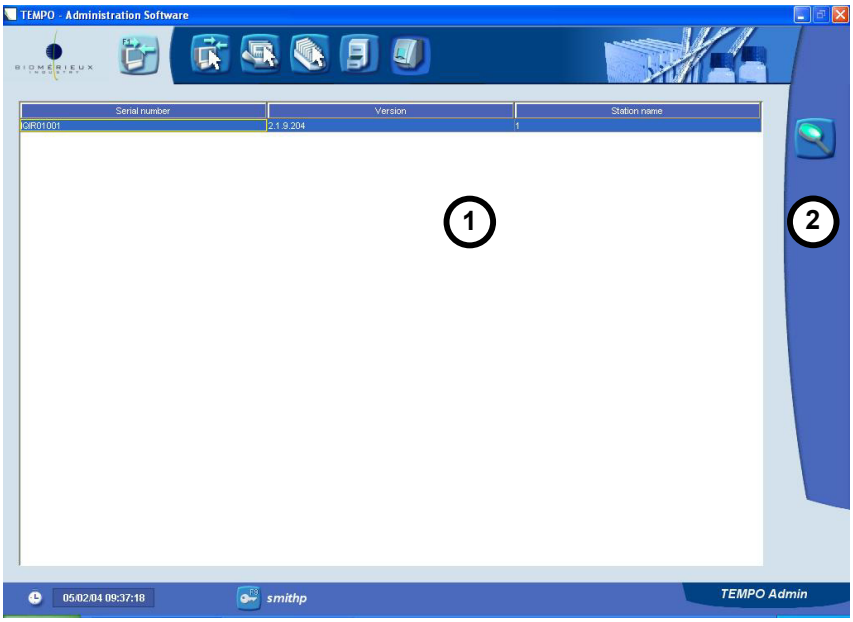


*Figure 8-10: Screen for displaying details on the **TEMPO** ® **Reader** instruments in the **TEMPO** ® configuration*

Displaying *TEMPO* ® Reader details

To open the window for displaying details on a ***TEMPO*** ® **Reader**:

- Select a ***TEMPO*** ® **Reader**.
- Click on icon (Display).

  The Instrument details window is displayed.

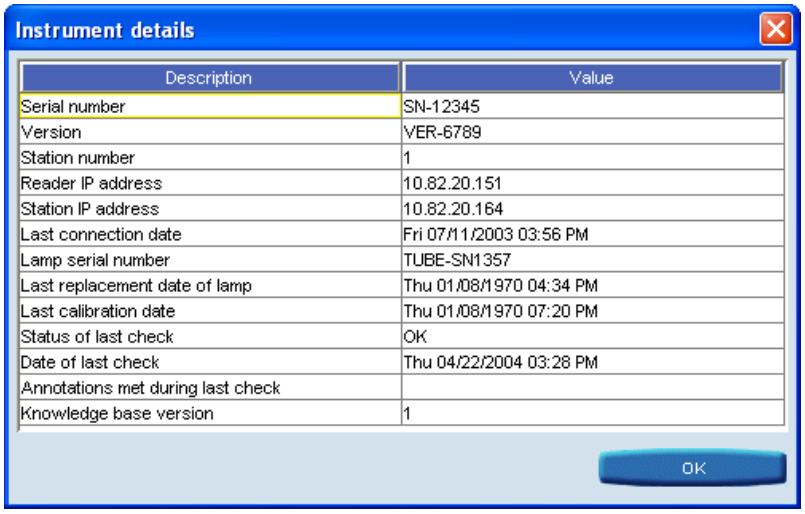


Figure 8-11: ***TEMPO*** ® **Reader** details window

- Click on to close the window.

8

Importing and exporting data

This function is used to export and import data in TED format on the ***TEMPO*** ® system.
This function can be used when a software update is performed.

The screen for importing and exporting data can be accessed by clicking on icon in the navigation area.

Apart from the alarm field, the navigation area and the status bar which are found on all the screens, this screen includes:

1. A field for displaying the results of the last import and export operations performed since the ***TEMPO*** ® **Admin** application was opened.
2. A control area.

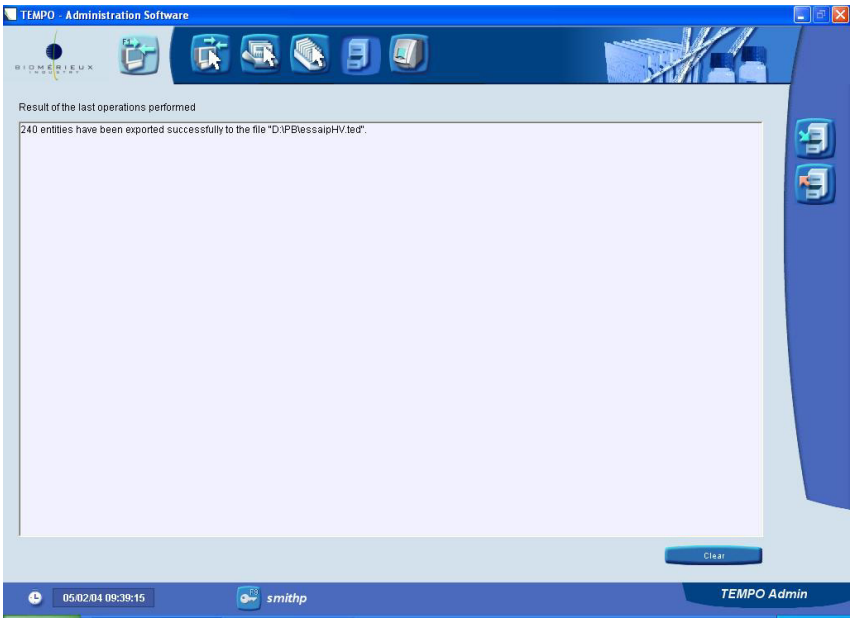


Figure 8-12: Screen for displaying the results of import and export operations

To import data:

- Click on icon (**Import**).

  A dialog box is displayed. This box should be used to select the data source folder and the data file to import.

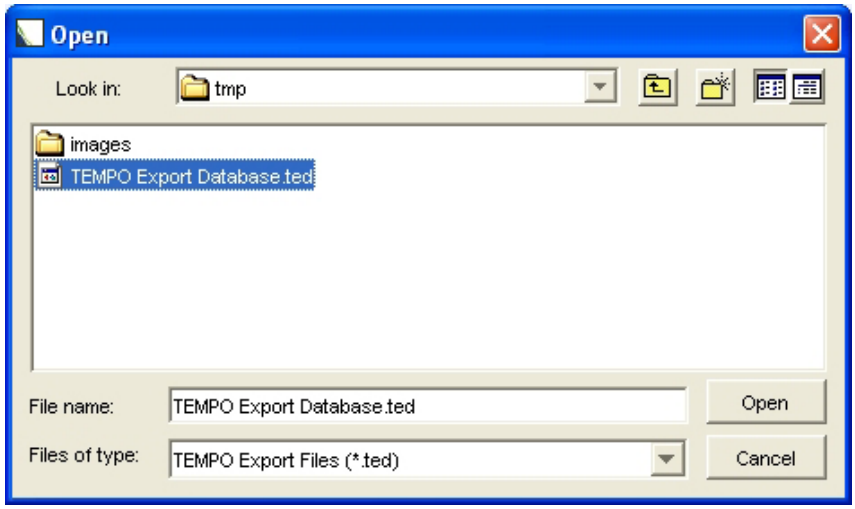
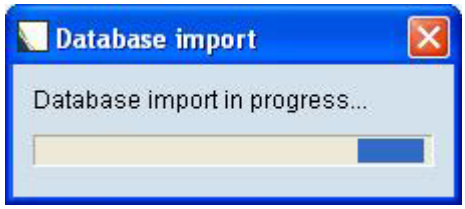


Figure 8-13: Import data dialog box

- Select the data file to import.
- Click on "Open" to start data import or on "Cancel" if you do not want to perform the operation.

During data import, a progress box is displayed



When data import is completed, the result is shown in the display field.

To export data:

- Click on icon (**Export**).

  A dialog box is displayed. This box should be used to select the data destination folder and to indicate the name of the exported data file.

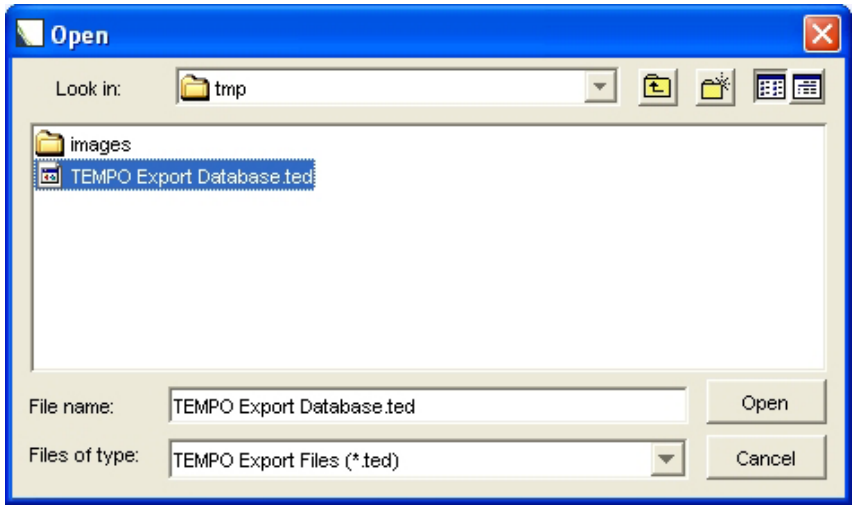


Figure 8-14: Export data dialog box

- Enter the exported data file name.
- Click on "Save" to start data export or on "Cancel" if you do not want to perform the operation.

During data export, a progress box is displayed.

When data export is completed, the result is shown in the display field.

Note: By default, data is exported to the folder: "D:\bioMerieux\TEMPO\export".

9 Maintenance

Introduction

This chapter deals with the following topics:

- Safety controls 9-2
- Systematic preventive maintenance 9-3
- Conditional maintenance 9-7
- Maintenance log 9-15
- Adjustment and performance verification 9-16
- Maintenance operations performed by bioMérieux® 9-17
- Decontamination and disinfection 9-18
- Removal and disposal of materials 9-18
- Spare parts, consumables, tools and "maintenance products" 9-19

Safety controls

DANGER! ***Opening covers or removing components other than those maneuverable by hand may give access to parts of the equipment that can be dangerous to touch.***

Prior to any adjustment, replacement, servicing or repair, disconnect the instruments if they have to be opened.

After opening, if it is imperative to switch the instruments on, any adjustment, servicing or repair should be performed by a qualified technician who is aware of the possible risks.

Systematic preventive maintenance

DANGER! ***Prior to any maintenance operations, the instruments and equipment must be disconnected from the power supply.***

After disconnection, wait 1 minute before starting the maintenance operations.

Protective gloves must be worn when performing cleaning and decontamination operations.

Monthly maintenance

Cleaning and decontamination

Note: cleaning and decontamination operations can also be performed:

- *in case of accidental contamination,*
- *if you consider decontamination is necessary.*

Duration of check	< 1 hour
Checked by	a laboratory technologist
Spare part(s) and consumables	*Not applicable*
Tools and laboratory equipment	Lint free paper
Maintenance products	A chlorinated solution diluted to 3° chlorometry 70° alcohol

TEMPO ® Reader

- Clean the external surfaces of the ***TEMPO*** ® **Reader** using a disinfectant solution (70° alcohol or a chlorinated solution diluted to 3° chlorometry).
- Wipe the external surfaces of the ***TEMPO*** ® **Reader** using moistened lint free paper (to remove any residue of chlorinated solution).
- Dry the external surfaces of the ***TEMPO*** ® **Reader** using lint free paper.

Internal surfaces

The internal surfaces of the ***TEMPO*** ® **Reader** must not be cleaned by the user. If the internal surfaces require cleaning, call bioMérieux® or your local bioMérieux® representative.

Hardware instruments (computer, monitor, mini-keyboard, barcode reader, barcode reader holder)

CAUTION! ***Follow the manufacturer's recommendations for cleaning and decontamination of the hardware instruments and barcode reader.***

Incubation/reading rack

See Chapter 8 in the Preparation Station User's Manual

Checking the measurement performance of the *TEMPO* ® Reader using the *TEMPO* ® Check software and the *TEMPO* ® QC control kits

Duration of check	15 minutes
Checked by	a laboratory technologist
Spare part(s) and consumables	1 ***TEMPO*** ® **QC** Control kit (Ref. 80 000)
Tools and laboratory equipment	*Not applicable*
Maintenance products	*Not applicable*

The control method for checking the measurement performance of the ***TEMPO*** ® **Reader** using the ***TEMPO*** ® **Check** software and the ***TEMPO*** ® **QC** control kits is described in Chapter 10 - ***TEMPO*** **® Check**.

Conditional maintenance

DANGER! ***Before any maintenance operations, the instruments and equipment must be disconnected from the power source.***

After disconnection, wait for 1 minute before performing maintenance operations.

When removing a card which is jammed in the TEMPO® Reader, it is obligatory to wear gloves to protect against biological hazards.

To open the access cover (captive screw), use the screwdriver provided with the TEMPO® Reader. It is imperative to close the access cover once the maintenance operation is over.

Summary of conditional maintenance operations

- Unlocking the ***TEMPO®*** **Reader** door manually 9-8
- Replacing fuses 9-9
- Configuring the Reading Station barcode reader 9-11
- Removing a jammed card from the ***TEMPO®*** **Reader** 9-14

Unlocking the *TEMPO* ® Reader door manually

Conditions for performing the operation	The door is jammed in the locked position.
Duration of check	< 10 minutes
Checked by	a laboratory technologist
Spare part(s) and consumables	*NA*
Tools and laboratory equipment	*NA*
Maintenance products	*NA*

To release the ***TEMPO*** ® **Reader** door:

- Put the ***TEMPO*** ® **Reader** ON/OFF switch (1 / 0) in the OFF position.
- Disconnect the power supply cable from the ***TEMPO*** ® **Reader**.

The ***TEMPO*** ® **Reader** door locking mechanism unlocks and the door can be opened manually.

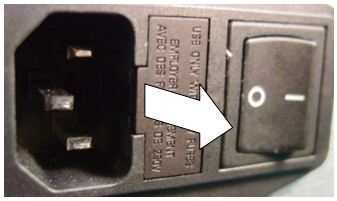
Replacing fuses

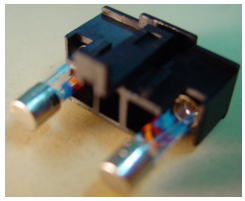
Duration of check	< 15 minutes
Checked by	a laboratory technologist
Spare part(s) and consumables	Two 2 A T fuses (time-delayed) 250 V (5x20)
Tools and laboratory equipment	*Not applicable*
Maintenance products	*Not applicable*

DANGER! ***The use of repaired or short-circuited fuses is prohibited.***

To replace the fuses:

- Put the ***TEMPO*** ® **Reader** ON/OFF switch (1 / 0) in the OFF position.
- Disconnect the power supply cable from the ***TEMPO*** ® **Reader**.
- Open the fuse holder and remove it.





- Replace the faulty fuses with new ones of the same rating.

CAUTION! ***Do not force when closing the fuse holder as this could damage the fuses. If you have difficulty closing the fuse holder, reposition the fuses correctly.***

- Put the fuse holder back into place.
- Check that the fuse holder is properly closed.

9

- Connect the ***TEMPO*** ® **Reader** power supply cable.
- Put the ***TEMPO*** ® **Reader** ON/OFF switch (1 / 0) in the ON position.
- Turn the ***TEMPO*** ® **Reader** on and check that the self-test is performed correctly (See Description of the ***TEMPO ® Reader*** lights and sound signals on page 5-24).

Configuring the Reading Station barcode reader

Duration of check	< 5 minutes
Checked by	a laboratory technologist
Spare part(s) and consumables	*Not applicable*
Tools and laboratory equipment	*Not applicable*
Maintenance products	*Not applicable*

IMPORTANT! ***Before configuring the barcode reader, check that the < Caps lock > key is not activated (upper case characters).***

To configure the Preparation Station barcode reader:

- Scan the following configuration barcodes in the order in which they appear.

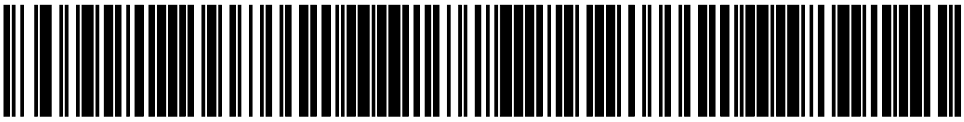
IMPORTANT! ***A beep is emitted when a barcode is scanned.***
Carefully scan the following barcodes from top to bottom. In the case of an error, rescan all the configuration barcodes.

Factory Default

Code 01

Code 02

Code 03



Manual/Serial Trigger

Note: The following barcodes are used to configure the barcode reader to match the keyboard used:

– *AZERTY keyboard.*

French Keyboard

or

– *QWERTY keyboard.*

USA Keyboard

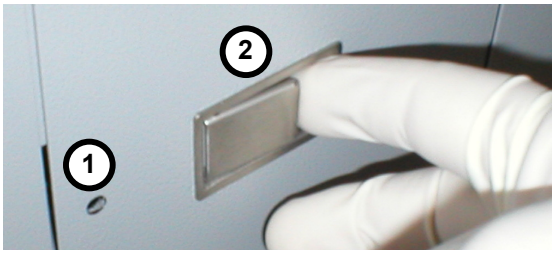
*By default, **TEMPO** ® is supplied with a* QWERTY keyboard.

Removing a jammed card from the *TEMPO* ® Reader

Duration	< 15 minutes
Performed by	a laboratory technologist
Spare part(s) and consumables	*Not applicable*
Tools and laboratory equipment	Screwdriver (provided with the ***TEMPO*** ® **Reader**)
Maintenance products	*Not applicable*

To remove a jammed card from the ***TEMPO*** ® **Reader**:

- Put the ***TEMPO*** ® **Reader** ON/OFF switch (1 / 0) in the OFF position.
- Disconnect the power supply cable from the ***TEMPO*** ® **Reader**.
- Use the screwdriver to unscrew the captive screw **(1)** holding the door in place.
- Release the lock **(2)** and open the door.



- Remove the card that is jammed or has fallen into the ***TEMPO*** ® **Reader**.
- Close the door.
- Use the screwdriver to tighten the captive screw holding the door in place.
- Reconnect the ***TEMPO*** ® **Reader** power supply cable.
- Put the ***TEMPO*** ® **Reader** ON/OFF switch (1 / 0) in the ON position.
- Check that the self-test is performed correctly (see Description of the ***TEMPO ® Reader*** lights and sound signals on page 5-24).

IMPORTANT! ***After removing the jammed cards, call bioMérieux® or your local bioMérieux® representative.***

Maintenance log

The following maintenance log is given as a guide.

		PREVENTIVE MAINTENANCE	DATE: NAME:
		DONE	COMMENT
Monthly	Clean and decontaminate the ***TEMPO*** ® **Reader**.	☐	
	Clean and decontaminate the hardware instruments.	☐	
	Clean and decontaminate the media stand.	☐	
	Clean and decontaminate the filling and incubation racks.	☐	
	Check the measurement performance of the ***TEMPO*** ® **Reader** using the ***TEMPO*** ® **Check** software and the ***TEMPO*** ® **QC** control kits.	☐	
		CONDITIONAL MAINTENANCE	
Manually unlock the ***TEMPO*** ® **Reader** door.		☐	
Replace fuses.		☐	
Configure the Reading Station barcode reader.		☐	
Remove a jammed card from the ***TEMPO*** ® **Reader**		☐	

Date:

Name and Signature of person in charge of maintenance:

9

Adjustment and performance verification

The control method for checking the measurement performance of the ***TEMPO*** ® **Reader** using the ***TEMPO*** ® **Check** software and the ***TEMPO*** ® **QC** control kits is described in Chapter 10 - ***TEMPO*** ® **Check**.

Maintenance operations performed by bioMérieux®

Introduction

Note: During the warranty period, these maintenance operations are performed by a bioMérieux® technician or a qualified person trained by bioMérieux® . When the warranty period is over, these maintenance operations can be performed by a bioMérieux® technician as part of a maintenance contract or on request.

Summary of maintenance operations performed by bioMérieux® SA

The main maintenance operations performed by a bioMérieux® technician are:

- Calibration of the ***TEMPO*** **® Reader**.
- Replacement of the optical module.
- Replacement of the ultraviolet light module.
- Cleaning and verification of all the ***TEMPO*** **® Reader** components.
- Verification of incubation/reading racks.

Decontamination and disinfection

Sporadic

Follow the maintenance operations described in Cleaning and decontamination on page 9-4).

Returning the instrument to the manufacturer

Follow the maintenance operations described in Cleaning and decontamination page 9-4).

Removal and disposal of materials

Consumables

For removal and disposal of consumables, refer to the reagent package inserts.

Contaminated materials and reagents

Dispose of contaminated disposable materials following procedures for infectious or potentially infectious products.

It is the responsibility of each laboratory to handle waste and effluents produced according to their type and degree of hazardousness and to treat and dispose of them (or have them treated and disposed of) in accordance with any applicable regulations.

Spare parts, consumables, tools and "maintenance products"

Introduction

This section presents:

- the spare parts,
- the list of consumables,
- the tools and laboratory equipment,
- the "maintenance products".

Spare parts

Fuses: ..... 2 x 2 A T (time-delayed) 250 Volts (5x20)

Consumables

Printer paper: ..... see the printer user's manual

Printer ink cartridges: ..... see the printer user's manual

Tools and laboratory equipment

Screwdriver: .....provided with the ***TEMPO*** ® **Reader**

1 ***TEMPO*** ® ***QC*** control kit: .....Ref. 80 000

Lint-free paper

"Maintenance products"

A chlorinated solution diluted to 3° chlorometry.

70° alcohol.

10 *TEMPO* ® Check

Introduction

This chapter describes how to use the ***TEMPO*** ® **Check** software and ***TEMPO*** ® **QC** kits (vials and cards) in order to check the measurement performance of the ***TEMPO*** ® **Reader**.

Note: *All users may perform **TEMPO** ® **Check**.*

*If you are using a multi-station configuration of **TEMPO** ®, the **TEMPO** ® **Check** software can be used to check the measurement performance for all the **TEMPO** ® **Reader** instruments in the configuration.*

IMPORTANT! ***Each control kit is for single use only. A control kit can only be used for one measurement performance check.***

A ***TEMPO*** ® **QC** kit consists of:

- Three 8 µM [8] QC cards and two 20 µM [20] QC cards.
- Three 8 µM [8] vials and two 20 µM [20] vials.
- One package insert.

This chapter deals with the following topics:

- Control method for checking the measurement performance of the ***TEMPO*** ® **Reader** 10-2
- Opening the ***TEMPO*** ® **Check** application 10-4
- Description of the main ***TEMPO*** ® **Check** screen 10-6
- Control of the measurement performance of the ***TEMPO*** ® **Reader** 10-8
- Manual entry of the barcode of a ***TEMPO*** ® **QC** card 10-15

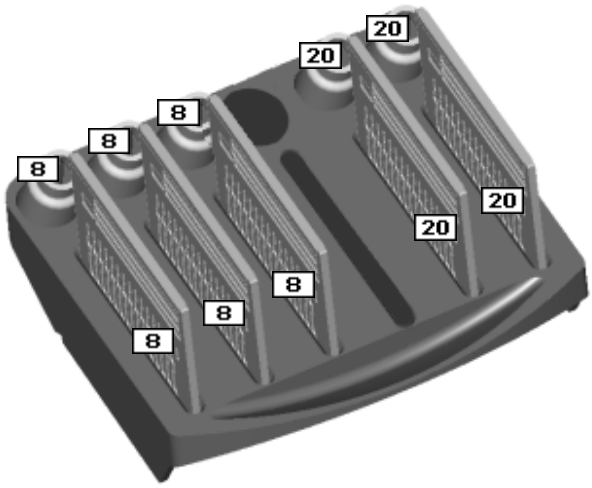
Control method for checking the measurement performance of the *TEMPO* ® Reader

CAUTION! ***Allow the TEMPO ® QC kit components to come to room temperature before use.***

After opening the TEMPO ® QC kit, perform the TEMPO ® Reader measurement performance control as rapidly as possible.
After opening the kit, do not leave the components exposed to direct light.

- Place the ***TEMPO ® QC*** vials and cards in the filling rack as indicated in the figure below.

IMPORTANT ! ***For the control to be valid, it is imperative to respect the association of the card and vial.***
This association is made easier by the pictograms 8 and 20 on the cards and vials.

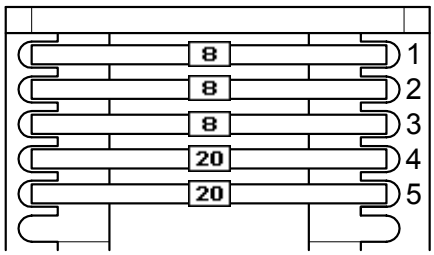


- Fill and seal the ***TEMPO ® QC*** cards in an identical manner to the ***TEMPO ®*** cards (see "Filling ***TEMPO ®***" cards in the Preparation Station User's Manual).

Note: *During filling and sealing of the control cards, no test entry should be done on the **TEMPO® Prep** software.*

There may be a residual volume of standard solutions in the vials after the filling cycle.

- Place the cards in the reading rack as follows:
  - the three 8 µM [8] cards in positions 1, 2 and 3.
  - the two 20 µM [20] cards in positions 4 and 5.



IMPORTANT! ***Unlike the TEMPO ® cards, the TEMPO ® QC cards should not be incubated.***

- Start the ***TEMPO ®*** **Check** application on the Reading Station computer.
- Read the ***TEMPO ®*** **QC** cards in an identical manner to the other ***TEMPO ®*** cards (see Reading ***TEMPO ®*** cards on page 5-18).

IMPORTANT! ***Do not shut down the TEMPO ®*** **Check** ***software during reading of the TEMPO ®*** **QC cards.**

- Consult the ***TEMPO ®*** **Check** test results display and management screen.

Note: *Several successive controls of the* ***TEMPO ®*** ***Reader*** *measurement performance can be performed using a new kit for each control.*

10

Opening the *TEMPO* ® Check application

To open the ***TEMPO*** ® **Check** application from the Windows desktop:

- Double-click on icon

on the Windows desktop.

or

- Use the Menu "Start / Programs / TEMPO / TEMPO Check".

or

- Simultaneously press keys **<Ctrl>**, **<Alt>** and **C**.

The software start window is displayed.

Figure 10-1: ***TEMPO*** ® ***Check*** *start window*

When the startup procedure is finished, the ***TEMPO*** ® **Check** login window is displayed.

*Figure 10-2: **TEMPO ® Check** login window*

To open ***TEMPO*** ® **Check**, enter the user name and password identical to opening a ***TEMPO*** ® **Read** session (see Opening a work session on the Reading Station computer on page 5-2).

- Click on

.

*Note: The functions of automatic logout and incorrect user name or password are identical to those of the **TEMPO*** ® ***Read** application (see Opening a work session on the Reading Station computer on page 5-2).*

Description of the main *TEMPO* ® Check screen

The ***TEMPO*** ® **Check** screen includes:

1. An alarm field and navigation area (see Navigation area on page 5-10).
2. A work field.
3. A control area.
4. A status bar identical to that of ***TEMPO*** ® **Read** (see Status bar on page 5-11).

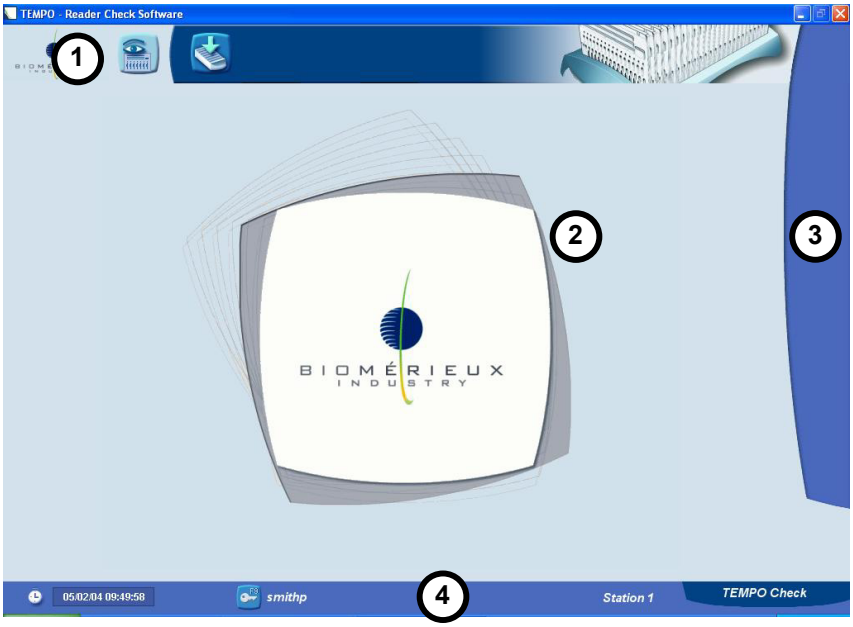


*Figure 10-3: Main **TEMPO** ® **Check** screen*

*Note: The navigation area and the status bar are the same for all the **TEMPO** ® **Check** screens. The work field and the control area vary according to the screen displayed.*

Alarm field and navigation area

The alarm field and the navigation area allow access to the window for manual preparation of a rack and the test results management window:

- Click on icon to access the screen for display and management of the results of the ***TEMPO*** ® **Reader** measurement performance controls (see Control of the measurement performance of the ***TEMPO*** **®** ***Reader*** on page 10-8).
- Click on icon to access the screen for the manual entry of ***TEMPO*** ® **QC** card barcodes (see Manual entry of the barcode of a ***TEMPO*** **® QC** card on page 10-15).

Control of the measurement performance of the *TEMPO* ® Reader

Once the ***TEMPO*** ® **Check** application has started:

- Click on icon in the alarm field.

The screen for display and management of the results of the ***TEMPO*** ® **Reader** measurement performance controls is displayed.

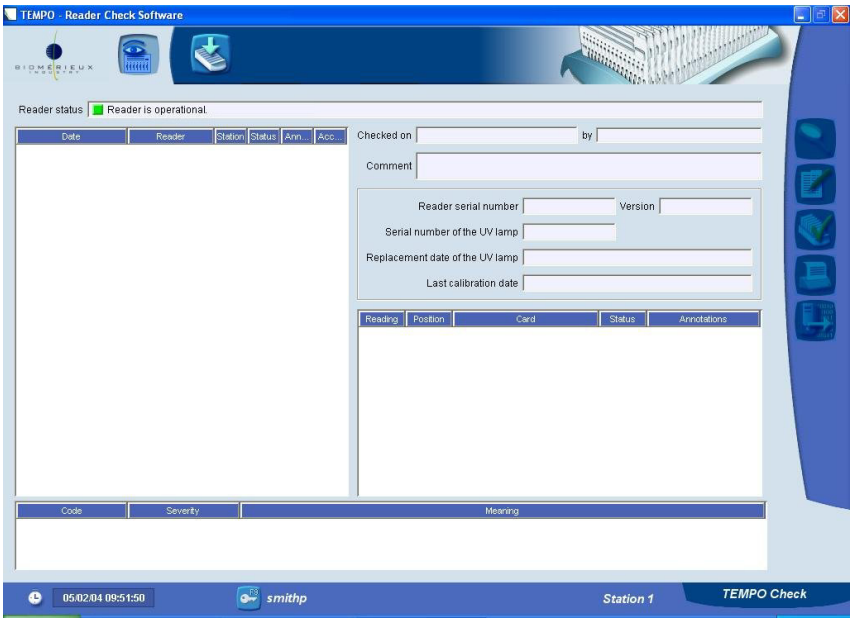


Figure 10-4: Screen for display and management of the results of the ***TEMPO*** ® ***Reader*** *measurement performance controls*

- Reading the ***TEMPO*** ® **QC** cards is identical to reading the ***TEMPO*** ® cards: placing the rack in the reader and starting the reading by pressing the "**Start**" button (see Reading ***TEMPO*** ® cards on page 5-18).

Note: If the barcode of one or more control cards cannot be read by the ***TEMPO*** ® ***Reader****, enter the bar code manually (see Manual entry of the barcode of a* ***TEMPO*** ® ***QC*** *card on page 10-15).*

When reading of the ***TEMPO*** ® **QC cards** is completed, the screen for display and management of the results of the ***TEMPO*** ® **Reader** measurement performance controls displays the results:

- : The reader functions correctly.
- : The reader functions correctly but you must be extremely vigilant when the next controls are performed.
- : Call bioMérieux® or your local bioMérieux® representative.

IMPORTANT ! ***If three successive TEMPO ®Reader checks, performed using three different TEMPO ®QC kits, give the same result: , call bioMérieux® or your local bioMérieux® representative.***

- Click on a row in the list of controls performed (table on the left) to display the details of a single control.

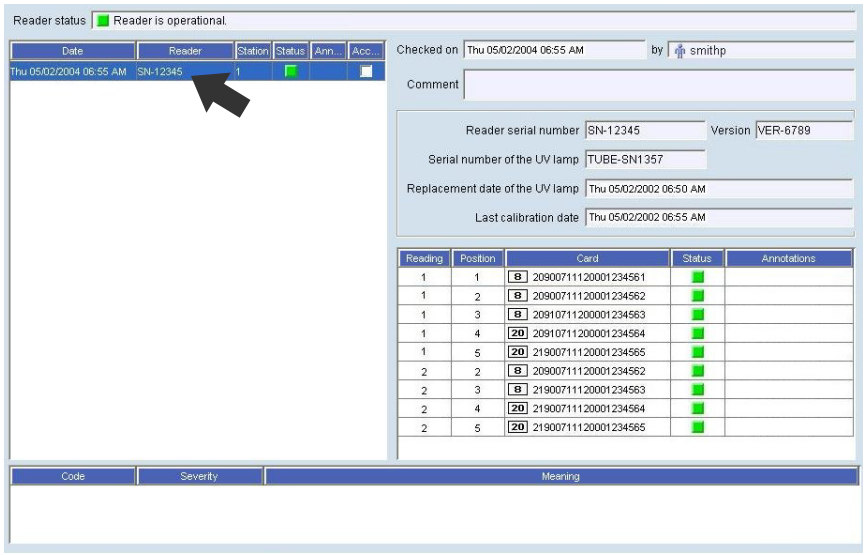


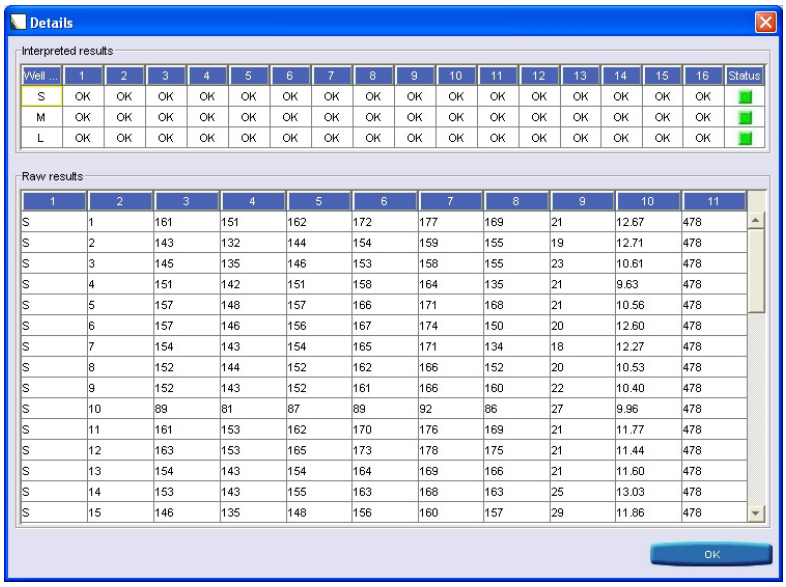
Figure 10-5: Display of ***TEMPO*** ® ***QC*** *card details*

10

Displaying *TEMPO* ® QC card details

- Select a card reading from a list of readings performed for the control (table on the right) in the work field.
- Click on icon in the control area.

The window displays the details of a ***TEMPO*** ® **QC** card.



Well ...	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Status
S	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
M	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	
L	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	

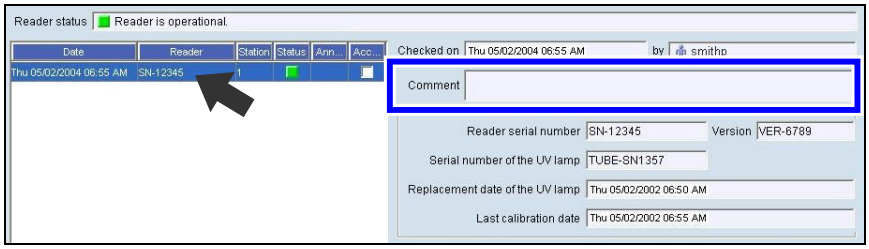
1	2	3	4	5	6	7	8	9	10	11
S	1	161	151	162	172	177	169	21	12.67	478
S	2	143	132	144	154	159	155	19	12.71	478
S	3	145	135	146	153	158	155	23	10.61	478
S	4	151	142	151	158	164	135	21	9.63	478
S	5	157	148	157	166	171	168	21	10.56	478
S	6	157	146	156	167	174	150	20	12.60	478
S	7	154	143	154	165	171	134	18	12.27	478
S	8	152	144	152	162	166	152	20	10.53	478
S	9	152	143	152	161	166	160	22	10.40	478
S	10	89	81	87	89	92	86	27	9.96	478
S	11	161	153	162	170	176	169	21	11.77	478
S	12	163	153	165	173	178	175	21	11.44	478
S	13	154	143	154	164	169	166	21	11.60	478
S	14	153	143	155	163	168	163	25	13.03	478
S	15	146	135	148	156	160	157	29	11.86	478

*Figure 10-6: Display of the details of a **TEMPO** ® **QC** card*

- Click on to close the window.

Changing or adding comments

- Select a row from the list of controls performed (table on the left) in the work field.



- Click on icon in the control area.

The “Change comment” dialog box is displayed.

Figure 10-7: Change comment dialog box

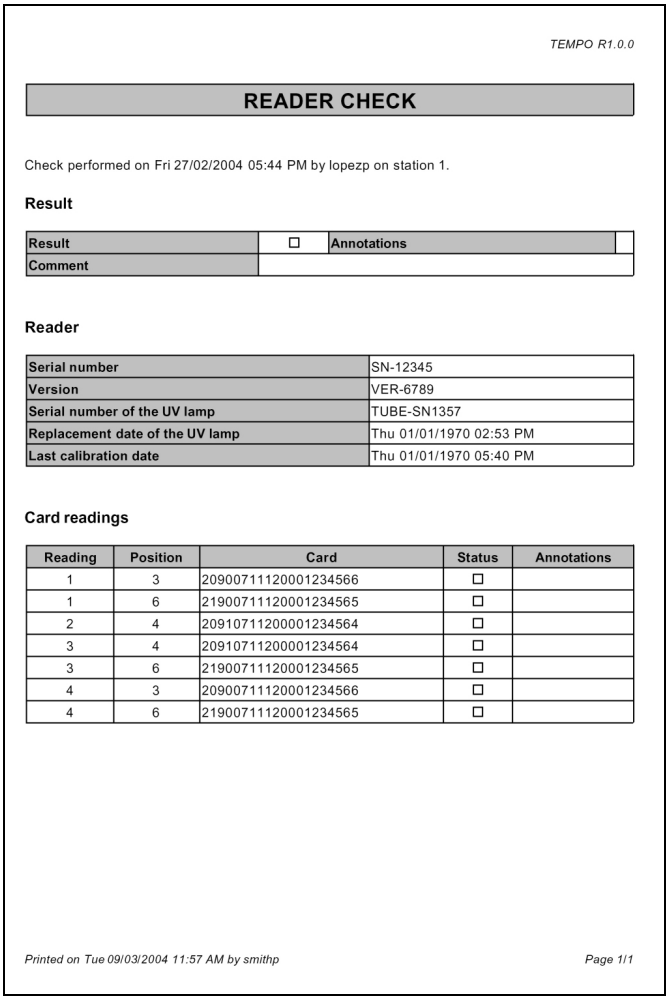
- Enter or change the comment.
- Click on to confirm the entry or on to delete the entry.

The comment is displayed in the comment field.

Printing a control report

- Select a row from the list of controls performed (table on the left) in the work field.
- Click on icon in the control area.

10



TEMPO R1.0.0

READER CHECK

Check performed on Fri 27/02/2004 05:44 PM by lopezp on station 1.

Result

Result	☐	**Annotations**	
Comment			

Reader

Serial number	SN-12345
Version	VER-6789
Serial number of the UV lamp	TUBE-SN1357
Replacement date of the UV lamp	Thu 01/01/1970 02:53 PM
Last calibration date	Thu 01/01/1970 05:40 PM

Card readings

Reading	Position	Card	Status	Annotations
1	3	20900711120001234566	☐	
1	6	21900711120001234565	☐	
2	4	20910711200001234564	☐	
3	4	20910711200001234564	☐	
3	6	21900711120001234565	☐	
4	3	20900711120001234566	☐	
4	6	21900711120001234565	☐	

Printed on Tue 09/03/2004 11:57 AM by smithp

Page 1/1

Figure 10-8: Example of a control report

Exporting control data

- Select a row from the list of controls performed (table on the left) in the work field.
- Click on icon in the control area.

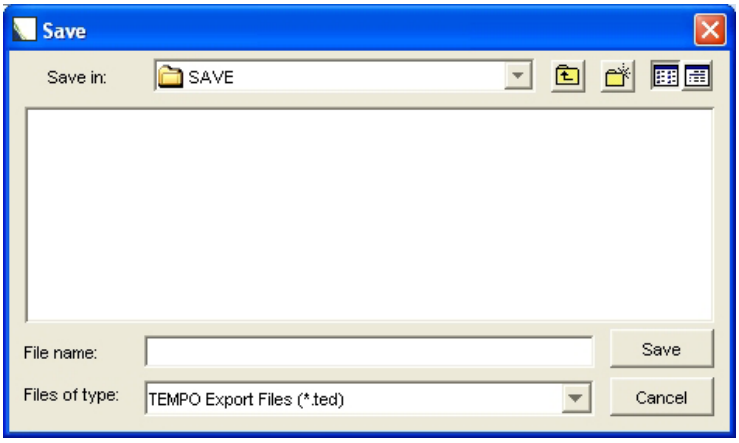


Figure 10-9: Export control data window

- Select the destination folder for export.
- Name the file.
- Click on "**Save**" to save the export file or on "**Cancel**" to cancel the export.

Note: By default, data is exported to the folder: "D:\bioMerieux\TEMPO\export".

Validating a control

- Click on the "**Accepted**" check box of the control in the list of controls performed (table on the left).

Figure 10-10: Validating a control

Icon is activated.

- Click on icon to validate the control.

The control disappears from the list of controls performed and is deleted from the database.

Manual entry of the barcode of a *TEMPO* ® QC card

When the barcode of a ***TEMPO*** ® **QC** card is not read by the barcode reader:

- Click on icon in the navigation area.

The window for manual entry of barcodes is displayed.

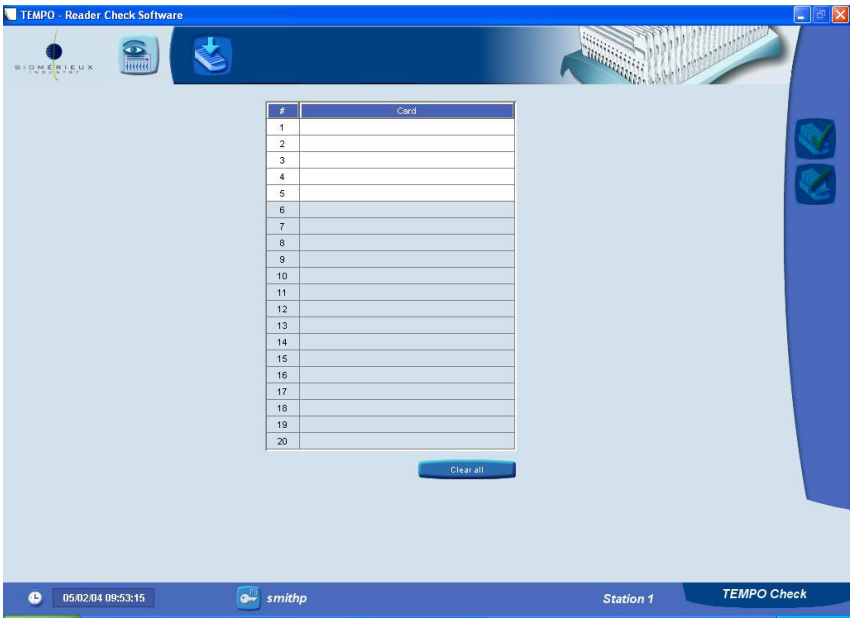


Figure 10-11: Window for manual entry of barcodes

- To enter the barcodes of the ***TEMPO*** ® **QC** cards, proceed in the same manner as for the preparation of a reading rack on ***TEMPO*** ® **Read** (see Preparing a rack for reading on page 5-43).
- Perform the reading (see Control of the measurement performance of the ***TEMPO ® Reader*** on page 10-8).

11 Troubleshooting

Introduction

This chapter deals with the following topics:

- List of error messages and alarms..... 11-2
- Failures..... 11-4

List of error messages and alarms

*Note: The messages "Instrument barcode reader does not work" and "Reader is operational, but time synchronization could not be performed" do not prevent use of the **TEMPO** ® system.*

Instrument errors

Error message/alarm	Possible cause	Recovery procedure
incom. parameters	***TEMPO*** **®Reader** startup failure.	Call bioMérieux® or your local bioMérieux® representative.
parameters bad chksm		
hardware error (N) *(N corresponds to an error number)*		
out of memory		
drive board error		
lamp error		
init error		
barcodrdr error	***TEMPO*** **®Reader** self-test failure. *These errors only occur during the self-test.*	Call bioMérieux® or your local bioMérieux® representative.
org search error (N) *(N corresponds to an error number)*		
spectralon error(N) *(N corresponds to an error number)*		
photodiode error		
fatal error during autotest	This error occurred during the ***TEMPO*** **®Reader** self-test.	Call bioMérieux® or your local bioMérieux® representative.
sqi com problem	Instrument failure.	Call bioMérieux® or your local bioMérieux® representative.

Error message/alarm	Possible cause	Recovery procedure
card jam	A card is jammed in the instrument.	Remove the jammed card by opening the maintenance hatch (see Removing a jammed card from the ***TEMPO*** **® Reader** on page 9-14). Check that the card has not been damaged and repeat the reading. If the card has been damaged, repeat the preparation operations (see the Preparation Station User's Manual). Call bioMérieux® or your local bioMérieux® representative.
maintenance door opened	The maintenance hatch is open or has not been properly closed.	Close the maintenance hatch (see Removing a jammed card from the ***TEMPO*** **® Reader** on page 9-14).
WARMUP TTT s DD C *(TTT corresponds to the time in seconds and DD to the temperature in °C)*	Warm up time before the ***TEMPO*** **® Reader** is ready for use.	Wait until the ***TEMPO*** **® Reader** has warmed up before using it.
power fail	The reading cycle has been interrupted by a short power failure.	Switch off the ***TEMPO*** **® Reader** by pressing the **ON/OFF** switch. Wait for 20 seconds and switch the ***TEMPO*** **® Reader** back on. If the ***TEMPO*** **® Reader** self-test is completed successfully (See Description of the ***TEMPO*** **®** ***Reader*** lights and sound signals on page 5-24), remove the reading rack.
	Others	Call bioMérieux® or your local bioMérieux® representative.

Software messages

The different software messages are shown in Appendix 3: Main computer system messages and annotations on page 12-5.

Failures

Equipment

Problems	Possible cause	Recovery procedure
The Reading Station equipment does not function.	There is no power supply.	Contact the department concerned in order to restore the power supply.
The central processing unit, monitor or printer does not function.	The power cable is disconnected.	Connect the power cable.
	The "ON/OFF" switch is in the “OFF” position.	Put the "ON/OFF" switch into the “ON” position.
	Others.	Call bioMérieux® or your local bioMérieux® representative.
The keyboard or the barcode reader does not function.	The keyboard or the barcode reader is not properly connected to the computer.	Check that the keyboard or the barcode reader is properly connected and call bioMérieux® SA or your local bioMérieux® representative.
	Others	Call bioMérieux® or your local bioMérieux® representative.
The ***TEMPO*** **® Reader** does not function.	The power cable is disconnected.	Connect the power cable.
	The "ON/OFF" switch is in the “OFF” position.	Put the "ON/OFF" switch into the “ON” position.
	The fuses have melted.	Change the fuses and call bioMérieux® or your local bioMérieux® representative.
	Others.	Call bioMérieux® or your local bioMérieux® representative.
The barcode reader does not read the barcodes correctly.	The barcode reader configuration options have been modified.	Configure the barcode reader again (see Configuring the Reading Station barcode reader on page 9-11).

Hardware instruments

Problems	Possible cause	Recovery procedure
The connection with the LIS does not function.	Refer to the **BCI Net** User's Manual.	
The ***TEMPO*** ® software will not start (***TEMPO*** ® **Read**, ***TEMPO*** ® **Prep**, ***TEMPO*** ® **Admin** et ***TEMPO*** ® **Check**).	Call bioMérieux® or your local bioMérieux® representative.	
The server (database) will not start.	The server has failed.	Shut down and restart the computer which has the server. Call bioMérieux® or your local bioMérieux® representative.
When the ***TEMPO*** ® **Check** application is opened, a message is displayed indicating that the data required to perform the reader check are not available.	Call bioMérieux® or your local bioMérieux® representative.	
After a work session is opened, a message is displayed indicating that the maximum number of tests has been reached and that the creation of samples, tests and cards is forbidden.	The database, which can contain a maximum of 10,000 tests, is full.	Perform database backup and archiving operations (see the Preparation Station User's Manual). Call bioMérieux® or your local bioMérieux® representative.
The ***TEMPO*** ® **Read** or ***TEMPO*** ® **Check** software indicates: – that the ***TEMPO*** ® **Reader** is not connected. – that there is a connection problem with the server.	The ***TEMPO*** ® **Reader** is not connected.	Check that the Ethernet cable is properly connected. If the Ethernet cable is disconnected, call bioMérieux® or your local bioMérieux® representative.
	The ***TEMPO*** ® **Reader** should be restarted.	Shut down the ***TEMPO*** ® **Reader** and restart it.

Problems	Possible cause	Recovery procedure
	TEMPO ® should be restarted.	Shut down and restart the ***TEMPO*** ® system (hardware and instruments). If the connection with the ***TEMPO*** ® **Reader**. Is still not working, call bioMérieux® or your local bioMérieux® representative.
When the ***TEMPO*** ® applications are started, a message is displayed indicating that the server is not available and that another attempt to access the server will be made in a few seconds.	Access to the server is in progress.	Wait until connection to the server has been achieved.
	The computer which has the server has not been started.	Start the computer which has the server.
	Others.	Call bioMérieux® or your local bioMérieux® representative.
A message is displayed indicating that an unexpected error has occurred.	Note down the message and call bioMérieux® or your local bioMérieux® representative.	
The ***TEMPO*** ® **Prep** application displays a message indicating that the server has been shut down and that the program must be shut down.	The automatic backup has just started.	Shut down and restart the ***TEMPO*** ® **Prep** application. Wait until the backup is completed. If connection with the server is still not available after the backup, call bioMérieux® or your local bioMérieux® representative.
The ***TEMPO*** ® **Read** software displays the message "Unreadable barcode".	The card has been placed upside down on the rack.	Reposition the card correctly on the rack, prepare a rack for reading and perform a new reading (see Preparing a rack for reading on page 5-43).
	The barcode is unreadable.	Prepare a rack for reading, enter the barcode and perform a new reading (see Preparing a rack for reading on page 5-43).
	Others.	Call bioMérieux® or your local bioMérieux® representative.

12 Appendix

Introduction

This chapter deals with the following topics:

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Appendix 1: General information on CD-RW and DVD+RW

CD-RW

CD-RW is short for **C**ompact **D**isc **R**e**W**ritable.

It is an optical disc that enables you to write onto it in multiple sessions. Its storage capacity is about 650 to 700 Mb.

Its dimensions are standard: 12 cm in diameter and 1.2 mm thick. It has a 15 mm hole in the center.

Note: For archiving operations (see Archiving database backups on page 6-11), the CD-RW must be formatted.

DVD+RW

DVD+RW is short for **D**igital **V**ersatil **D**isk **R**e**W**ritable and the **+** indicates the format of the DVD.

Data on a DVD+RW can be erased and recorded over numerous times without damaging the medium. It is an optical disc with a storage capacity of about 4.7 Gb.

Its dimensions are identical to those of a CD-RW.

Note: Like a CD-RW, a DVD+RW must be formatted before you perform archiving operations.

*It is important to use the DVD**+**RW correctly. Do not use DVD**-**RW or DVD-RAM.*

Appendix 2: Description of the main buttons used

The following table presents the main buttons of the ***TEMPO*** ® **Prep**, ***TEMPO*** ® **Read** and ***TEMPO*** ® **Admin** applications.

	Open a new work session or shut down a ***TEMPO*** ® software program.
	Connect ***TEMPO*** ® to the LIMS: – Display status (***TEMPO*** ® **Prep** and ***TEMPO*** ® **Read**). – Display and modify parameters (***TEMPO*** ® **Admin**).
	Display details of the selected item.
	Enter data via the keyboard.
	Delete the selected item.
	Display and manage incubated cards.
	Display and manage the last cards read and view the ***TEMPO*** ® **Reader** status.
	Define parameters for the data display filter.
	Print information displayed on the screen.
	Display information on the selected item.

	Manually validate results.
	Validate a rack.
	Prepare a rack.
	Export data.
	Export data in a TED file.
	Import a TED file into the database.
	Display information from the ***TEMPO*** ® **Reader**.
	Display and modify ***TEMPO*** ® **Prep** software parameters.
	Display and modify ***TEMPO*** ® **Read** software parameters.

Appendix 3: Main computer system messages and annotations

Annotations which may be associated with a test

The following list of the main annotations can be used to find the full text of a message when only the message code was displayed.

ANNOTATION	COMMENT
01	The card was read too early
02	The card was read too late
03	The card was read too many times
04	The card was read too many times before expected time
05	The card was read after test validation
06	Reader internal error
07	Communication error with the reader
08	Reader configuration error
09	Reader data loading error
10	Reader synchronization error
11	Unreadable card barcode
12	Unknown card barcode
13	Card barcode was captured by the operator
14	Card barcode scanned by reader differs from the one captured by operator
15	No card was found at this position

16	Result cannot be validated, card was read too early
17	Result cannot be validated, card was read after validation
18	Too many wells are unexploitable on the card
19	Card results interpretation leads to incoherent results
20	An error occurred during computation of concentration
21	Result is partial, waiting for reading of other cards for test
22	Several results are available for test
30	The maintenance hatch has been opened during the reading
31	An unknown error occurred with the reader during the reading
40	An error occurred during the interpretation of the card results
41	Too many wells have an unexpected result
42	A few wells have an unexpected result
43	A server error occurred during the check
44	One of the positions in the rack was empty
45	At least one of the cards has no barcode
46	At least one of the cards has an invalid barcode
47	An error occurred on card reader during check
48	A card has been refused by reader during check
49	Some cards were not processed during check
50	At least one of the cards has an error

51	At least one of the cards has a warning
90	The test is not attached to a sample
91	The test is of an unknown type
92	An error occurred while creating test
93	The maximum number of tests has been reached
94	The vial used for this test has expired
95	The card used for this test has expired
96	The check card has expired
97	No reader check has been performed when reading was done
98	The card was read with a reader which had its last check failed
99	No reader check has been performed since the last lamp replacement
100	No reader check has been performed since the last calibration

Error messages displayed when an operation cannot be performed

Unknown user name or bad password.

The referenced account is currently locked out and may not be logged on to.

User is not member of the requested group.

User is not member of the administrator group.

User is member of too many Groups.

Password expired.

The user's password must be changed before logging on the first time.

Application access disabled.

The operation can not be completed.

Null parameter.

The user name could not be found.

Incorrect parameter.

The specified account password has expired.

Account currently disabled.

The group name could not be found.

User account restriction.
Possible reasons are blank passwords not allowed, logon hour restrictions, or a policy restriction has been enforced.

The specified local group does not exist.

Your password expires in "XXX" days.
Do you want to change it now ?

Unable to update the password.
The value provided as the current password is incorrect.

The entered passwords are different.
Enter the new password in the two text fields.

Communication problem with the server.

Communication problem with the server.

Unexpected error: "XXX"

Impossible to modify the result of a validated test.

A validated test should not be deleted.

A LIMS test should not be deleted.

The chosen result may not be the final result of the test.

The file checksum is invalid.

The file does not have the expected format.

Sample "XXX" cannot be created (it already exists).

Sample "XXX" could not be renamed (it does not exist).

Sample "XXX" could not be renamed (results already exist for this sample).

Sample "XXX" could not be renamed (the new reference already exists).

Sample "XXX" could not be renamed (it was provided by the LIMS).

Tests could not be transfered (sample "XXX" does not exist).

Tests could not be transfered (results already exist for sample "XXX").

Sample "XXX" could not be deleted (it does not exist).

Sample "XXX" could not be deleted (results already exist for this sample).

This test could not be deleted (it does not exist).

This test could not be deleted (results already exist for this test).

This test could not be reset (it does not exist).

This test could not be reset (results already exist for this test).

Result could not be changed (test "XXX" does not exist).

No details found for test "XXX" (it does not exist).

Test "XXX" could not be deleted (it does not exist).

Card "XXX" could not be created (it already exists).

Card could not be created (test "XXX" does not exist).

Card "XXX" could not be deleted (it does not exist).

Card "XXX" could not be deleted (results already exist for this test).

Sample "XXX" does not exist.

Test "XXX" does not exist.

Card "XXX" does not exist.

Card "XXX" does not exist.

Test "XXX" does not exist.

Please specify a box size for each element.

The user account "XXX" could not be created because it already exists.

The user account "XXX" could not be updated because it does not exist.

The user account "XXX" could not be deleted because it does not exist.

The password could not be changed for the account "XXX" because it does not exist.

Invalid dilution (must be a positive integer between 1 and 80 000).

TEMPO ® Reader messages

Impossible to connect to the reader, another application is probably already using it.

no status information.

Unknown status message.

Initialization in progress...

Reader is not connected.

Reader is operational.

Reader is operational, but its lamp level is near limit.

Reader is operational, but time synchronization could not be performed.

Rack reading in progress ...

Internal reader error.

Lamp warm-up in progress, please wait ...

Communication error.

Configuration was not sent to the reader.

Error met while loading data.

Reader cannot be used, lamp worn out.

Instrument barcode reader does not work.

Card synchronization marks could not be processed.

A mechanical problem was detected, rack may not be ejected.

The maintenance hatch is open.

unknown exception.

reader is unreachable.

reader is already connected.

ROI name already exists.

the same extraction ID was found twice.

the same card ID was found twice.

ROI type already exists.

too many card geometries for reader capacity.

an incorrect ROI definition was provided.

an incorrect extraction configuration was provided.

reader is not connected.

unknown host name.

unable to connect.

unable to disconnect.

bad version for communication protocol.

unexpected exception due to connection refusal.

reader is currently used by another station.

reader is currently working.

reader is currently ready.

bad position value returned by reader.

bad values found in card positions.

error while reading reader response.

command failed.

bad format for data found between brackets.

REunable to accept connections.

bad format for date.

infinite loop detected while reading rack.

Confirmation messages

This will COPY all the audit trail files from the backup directory to the archiving media.
Do you really want to do this?

This will MOVE all the audit trail files from the backup directory to the archiving media.
Do you really want to do this?

This will DELETE all the audit trail files from the backup directory.
Do you really want to do this?

This will COPY all the database files from the backup directory to the archiving media.
Do you really want to do this?

This will MOVE all the database files from the backup directory to the archiving media.
Do you really want to do this?

This will DELETE all the database files from the backup directory.
Do you really want to do this?

TEMPO ® operation messages

Starting TEMPO backup...

Starting TEMPO server...

Stopping TEMPO server...

Unable to find the TEMPO server

Error while starting the TEMPO server (return code = "XXX")

Error while stopping the TEMPO server (return code = "XXX")

TEMPO server is already stopped!

TEMPO server is already started!

You must be a system administrator to start TEMPO server!

You must be a system administrator to stop TEMPO server!

Operation canceled, a database backup is already in progress.

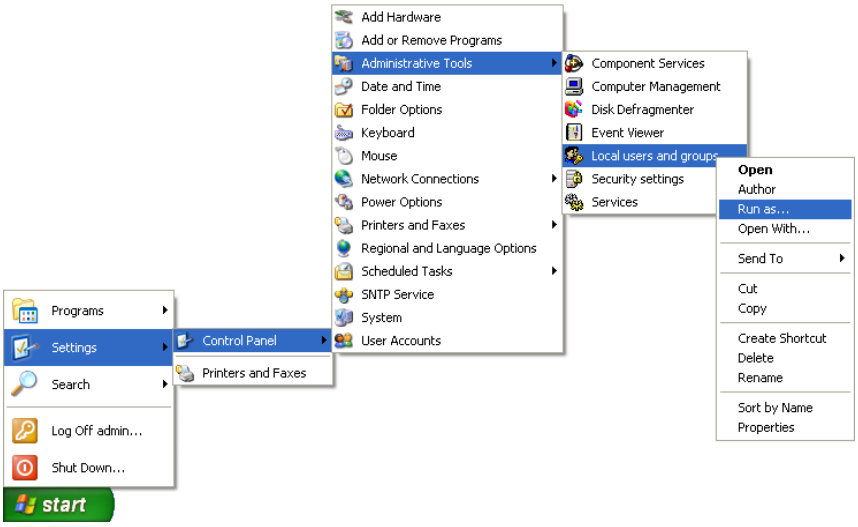
Appendix 4: Performing administrative tasks without closing the *TEMPO* ® session

To perform these tasks without disconnecting a user who has opened a ***TEMPO*** ® work session, you must run as an "**ADMINISTRATOR**".

Example: Opening the user management tool

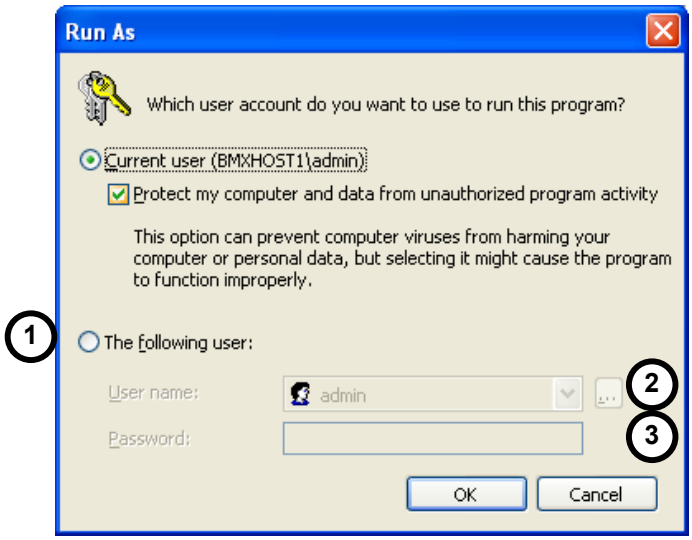
- Select "Start / Settings / Control Panel / Administrative Tools / Local users and groups".
- Right click on "Local users and groups"

  A context menu is displayed.

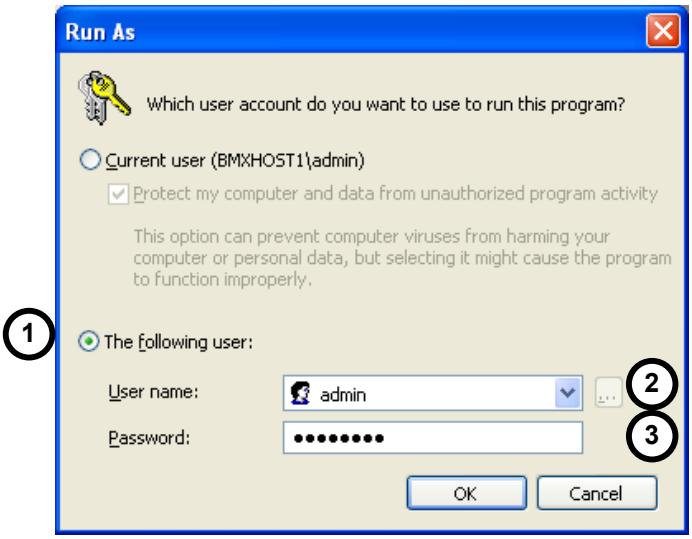


- Click on "Run as…".

  The "Run As" dialog box is displayed.



- Select"The following user" **(1)**.
- Select the user name in the drop down list **(2)**.
- Enter the user password **(3)**.



- Click on the "OK" button to open the user management tool or on the "Cancel" button if you do not want to perform the operation.

13 Glossary

Audit Trail	A record showing all the operations performed on the database.
Knowledge base	Parameters required by the ***TEMPO*** ® system to create, monitor and generate test results.
Database	Tests performed by the ***TEMPO*** ® system, including the knowledge base and results of readings.

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Notes

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