



User Manual



**SIRxpert® software version:
V101.5.11 or higher.**

Ref. Doc: MU-1894

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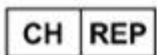
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All the documents cited as references are available online on the i2a company website accessible at the address: www.i2a-diagnostics.fr.

MU-1893: Handling and Transport of the Orion SIRscan®
MU-1475: Prerequisites for installing a SIRxpert® server workstation
MU-2160: SIRscan® Orion Use Cases
MU-2035: SIRxpert® - Routine
MU-2410: SIRscan® Calibration



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Change Tables

Current version:

Updated screens according to version 201.2.2.0 as well as the STAR system.

Version of 02/04/2024:

Change of address for the agent and the Swiss importer.
Modification of the "Computer skills prerequisites" section.

Version of 23/02/2024:

Correction of usage and storage conditions.
Amendment to paragraph 6.3.3
Addition of paragraph 6.7
Addition of paragraph 6.9.4
Amendment to paragraph 8.1
Amendment to paragraph 8.1.2
Amendment to paragraph 11.2

Version of 04/12/2023:

Addition of the MHR-SIR® section.
Change of postal address.

Version of 02/04/2023:

Addition of the Swiss agent and the Swiss importer.
Amendment to paragraph 1.
Amendment to paragraph 3.5.
Paragraph 12.5 has been deleted.

Version of 13/09/2023:

Summary modification.

Version of 24/08/2022:

Correction to paragraph 5.1.4.2.

Version of 26/07/2022:

Addition of point 12.11 "Webcam setup".

Version of 18/03/2022:

Modification of point 11.9 "Error when reading a plate (SIRxpert® version < 101.5.11.8)".
Added point 11.10 "Error when reading a plate (version SIRxpert® >= 101.5.11.8)".

Version of 22/12/2021:

Addition of point 11.9 "Restart of the acquisition service with the reading drawer open"

Version of 28/10/2021:

Amendment to the regulatory section.

Version of 23/07/2021:

Addition of regulatory section

Added ports 189 and 445 to the list of ports to be opened.

Version of 21/07/2021

Overhaul of the regulatory section.

Added updates from the new version: Sequence-based assignment of identifications and antibiograms.

Maintenance change: Removal of the fuse replacement procedure in the drawer.

Added chapters to Troubleshooting.

Version of 8/06/2021

Transition from v10 to V11 (complete redesign of the document).

1 Foreword

The purpose of this manual is to provide clear and concise support for routine use of the SIRscan® Orion.

Attention should be paid to the ability of the RESPONSIBLE AUTHORITY to read these materials.

The charger eliminates the need for manual reading of Petri dishes.

The antibiograms to be read are loaded into the loader the day before, and the first readings of the germs in culture are carried out after a configurable incubation time.

The proposed organization can be freely adapted according to the specific needs of the laboratory.

However, it has the advantage of streamlining the use of the device in order to get the most out of it.

Reading this manual requires prior knowledge of the use of the SIRxpert® software and the SIRscan® Orion AUTOMATE.



If you have any questions that are not answered in this manual, please contact i2a legal representant in your country.

VIGILANCE

Any serious incident occurring in connection with the device must be reported to the manufacturer and the competent authority of the country in which the user is established.

2 Warnings

User manuals must be read in their entirety and staff must be trained by i2a or one of its legal representatives before operating the application/instrument.

Always refer to i2a's labeling and instructions to avoid compromising the integrity of the application/instrument.

The user must always operate the application/instrument with full knowledge and the ability to interpret warnings, comments, and alarms.

Personnel using the product must be trained in the use of chemicals and bacteriological risks

The SIRxpert® Master application and i2a instruments comply with the Standards and regulations mentioned in the EU declarations of conformity available on www.i2a-diagnostics.fr.

i2a reagents, consumables and accessories are validated in accordance with European regulations as stated in the EC Declarations of Conformity available at www.i2a-diagnostics.fr. For any other legislation, please contact i2a for more information.

The use of reagents, consumables or accessories other than those supplied by i2a may compromise the performance of the instruments.

In this case, i2a cannot be held responsible for the results generated on a configuration of this type.

Appropriate laboratory protective equipment such as gloves, goggles, and a lab coat must be worn by the user.

Local or national regulations must be applied in all operations.

All peripherals must comply with relevant standards.

2.1 Warranty limitations

The warranty period is stipulated in the general terms and conditions of sale associated with the purchase of this application/instrument.

In order to maintain the validity of the guarantee, the following conditions must be fully met:

1. The SIRxpert® application must be installed on computers provided or approved by i2a.
2. The application/instrument is used according to the instructions in this document and the relevant manuals.
3. Only the software or hardware specified by i2a should be installed on the system. This software must be the original, copyrighted version.
4. Services and repairs are provided by an i2a-authorized technician, using only i2a-approved spare parts.
5. The laboratory's electrical installation must comply with the installation standards in force in the country.
6. The samples are collected and stored under normal conditions.
7. The reagents, consumables and accessories used are those specified in this document as well as in the associated manuals and user guides.
8. Appropriate tools are used during maintenance or troubleshooting operations.



If this device was supplied to you by someone other than i2a or an i2a authorized representative, i2a cannot guarantee this product in terms of specifications, latest revision and latest documentation.

Further information can be obtained from your i2a representative.

2.2 Safety precautions

The SIRxpert® application is a middleware application that works within the framework of diagnostic medical devices that contain electronic/electrical components and moving parts.

The following parts must not be handled or controlled by the user:

- Power supply
- Electronic components

Otherwise, the operator may suffer injuries from an electric shock. Electronic components can shock and injure the user.

Do not alter the device and do not remove its components (covers, doors, panels, etc.), unless otherwise stated in this document.

- Moving parts:

It is strictly forbidden to disable the sensors, as this risks causing injury to the operator.

The protective covers must not be opened during operation of the device.

Failure to comply with the terms of use and safety instructions may compromise user safety. Under no circumstances is the user authorized to dismantle the automated system.

The user must exclusively use consumables that have not exceeded their expiry date according to standard CE1 61010-2-101.

The use of the automated system is reserved for qualified personnel and is subject to training and authorization. The user manual must be read in its entirety and the **referent personnel** must be trained by i2a or one of its legal representatives before operating the application/instrument.

2.3 Biological risks



Consider all samples, specimens and reagents as potentially infectious! Use good laboratory work practices when handling samples.

Wear all protective equipment such as: gloves, lab coat, safety glasses and/or face shields, and comply with all safety practices in effect in your territory as specified in the OSHA recommendations for bloodborne pathogens (29 CFR part 1910.1030) as well as any equivalent biosafety procedure.

The user must be made aware of and trained in biological risks.



All accessible surfaces of the device can potentially be contaminated and represent a biological risk. The operator must wear gloves and a lab coat. Local and national regulations must be applied to all operations.

i2a recommends the use of SURFA'SAFE Premium type disinfectant products from ANIOS for decontaminating the device and strongly recommends their use. Refer to the device's cleaning instructions for cleaning and decontamination.

2.4 Chemical risks



All chemicals must be stored and handled as recommended in their associated safety data sheets.

3 Terms of Use

3.1 Environment

The operation of the SIRscan® Orion and the SIRxpert® application installed on a computer is designed for professional laboratory use. Contact your local i2a representative for any information regarding its use in an environment that does not meet the recommended specifications.

A barcode printer is included with the machine and uses the open-source software NiceLabel: the terms of use are available at the following address: <https://www.nicelabel.com/legal/open-source-components/#software>.

Failure to comply with the operating or usage conditions described in this manual may reduce the instrument's lifespan, which is set at 8 years.

3.2 Location

The application/instrument must be placed on a flat, clean, and level table or workbench.

Avoid direct exposure to sunlight.

Position the device so that it is not exposed to water or steam.

Position the device so that it is free from vibrations or shocks.

Place the device near an independent power supply. Be careful not to position the device in such a way as to make it difficult to operate the disconnecting device. The power cord acts as a disconnecting device.

Good ventilation is necessary. Provide at least 3.5cm of space at the rear of the device to prevent the power supply from overheating.

The ON/OFF switch and the power outlet must always be accessible.

When positioning the system for operational use, leave the space required for easy access to these elements.

The SIRscan® Orion should only be moved by authorized and trained personnel.

3.3 Grounding

Proper grounding is required when installing the system.

Check the availability of earth on the wall socket for grounding.

This verification must be carried out by authorized personnel only.

If you are unsure about the equipment's grounding, contact your electrical engineer to verify the grounding.

3.4 Electromagnetic environment control

The application/instrument has been designed to fall below the accepted level of electromagnetic interference in order to function in accordance with its intended use, allowing other devices to also function in accordance with their intended use.

Do not use strong magnetic field emitters (e.g., mobile phones, portable radios, automatic door openers and closing devices, elevators) near the device.

3.5 Temperature conditions

Temperature: The application/instrument must operate between 19°C and 26°C (66°F to 80°F).

3.6 Environmental protection

3.6.1 Disposal of accessories and consumables

They must be collected by a laboratory specializing in the disposal and recycling of this type of material in compliance with local legislation.

3.6.2 Instruments

They must be disposed of in accordance with local legislation and treated as being contaminated with potentially infectious materials. Appropriate biological precautions must be taken.

Information on the disposal of electrical and electronic equipment and the disposal of batteries and accumulators:



The crossed-out wheeled bin symbol with an underline on the product or accompanying documents indicates that the product requires appropriate treatment, collection and recycling of electrical and electronic equipment (WEEE) under Directive 2012/19/EU, and/or batteries and accumulators/waste under European Union Directive 2006/66/EC.

The symbol can be associated with the chemical symbols below (Cd, Pb, Hg). In this case, it is subject to the requirements of Directive 2006/66/EC for the chemicals in question.

This product must not be disposed of with unsorted household waste.

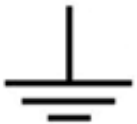
3.7 Transport and storage conditions

In case of exposure to extreme temperatures, leave the automate between 19°C and 26°C for 24 hours.

Before shipping a device by carrier, regardless of the destination, external decontamination of the device must be carried out.

3.8 Symbol

All the labels below are present on the SIRscan® ORION

	Biological risk / Biohazard Respect the rules in force in the laboratory
	Note that you must consult the documentation each time this symbol is marked.
	Warning: possibility of electric shock
	Warning regarding the presence of Laser (Class 1): Do not look directly at the laser. Lasers are potentially dangerous. Furthermore, do not look at the laser beam reflected off a specular object.
	Protective earthing terminal
	Earth marker
	Indicates the manufacturer of the medical device
	Indicates the date on which the medical device was manufactured
	Indicates a medical device intended for use as an in vitro diagnostic medical device

	Indicates that the devices comply with the provisions of the regulations applied by the manufacturer only.
	Indicates to the user that it is necessary to consult the instruction manual.
	Indicates to the user that the instruction manual must be read.
	This designates the manufacturer's serial number so that a specific medical device can be identified.
	Provide the manufacturer's reference number so that the medical device can be identified.

3.9 Interconnection instructions

	Universal Serial Bus or USB is a standard relating to a serial computer bus used to connect computer peripherals to a computer or any type of device designed for this purpose. The USB bus allows for hot-connecting peripherals (when the computer is on) and benefits from Plug and Play, which automatically recognizes the device. 3 USB ports available on the SIRscan ORION - 1 USB port for connecting the color camera - 1 USB port for connecting the LED lighting - 1 USB port available for USB flash drive or other compatible device
	RJ45 is commonly used for Ethernet connections, and for telephone connectors. 2 RJ45 ports available on the SIRscan® ORION - 1 For the temperature control screen - 1 for Ethernet

4 Unpacking and installation

4.1 Transportation

The transport will be carried out by a service provider.

Transportation after delivery to the RESPONSIBLE AUTHORITY is described in MU-1893.

4.2 Unpacking and installation

Unpacking, installation and any movement of the device must be carried out by a responsible authority (Unpacking described in MU-1893).

5 General presentation of the ORION SIRscan® instrument

The SIRscan® ORION is an incubator reader for antibiograms in agar medium.

The automated system allows control of all stages of the antibiogram, namely incubation, reading, expertise, editing and transmission of results.

The SIRscan® ORION allows standardization of the antibiogram bench with traceability facilitating laboratory accreditation.

The antibiogram aims to evaluate the sensitivity of a bacterial strain to a panel of antibiotics. The measurements (diameters or MIC) are interpreted as Sensitive, Sensitive to high exposure/Intermediate or Resistant. The categorisation (S, SFP/I, R) follows recommendations (reference framework of the CASFM, EUCAST and/or CLSI).

Therefore, antibiogram techniques should be considered as **qualitative methods**.

The SIRscan® ORION can read all types of plates:

- Round 90 mm
- Round 140 mm (150mm with lid)
- Square 120 mm

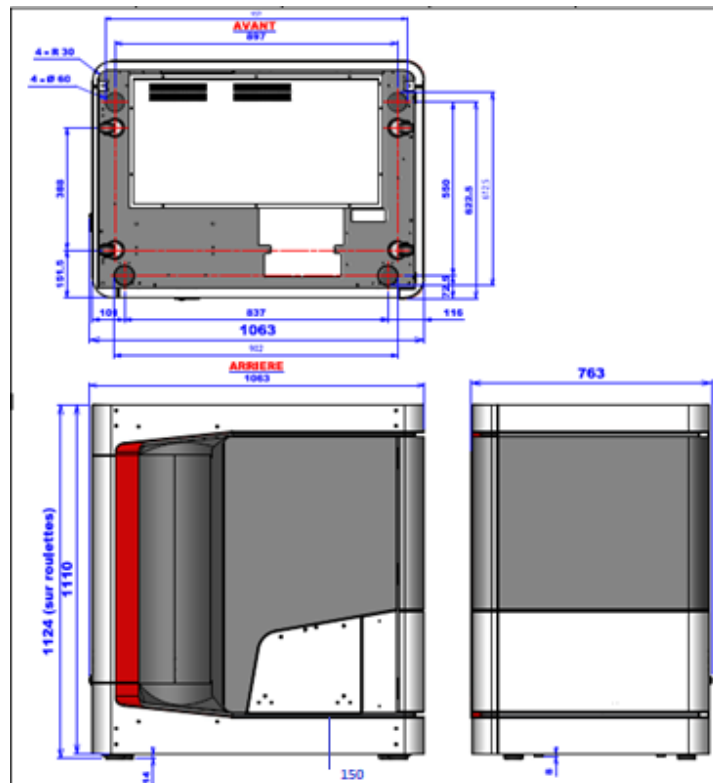
The ORION SIRscan® consists of the following elements:

- A SIRscan® ORION reader/incubator consisting of a 4-rack, 12-position incubator
 - A barcode printer (Accessory)
 - A barcode scanner (Accessory)
 - A 24" touchscreen
 - A PC
 - A webcam for assistance
 - The SIRxpert® Antibiogram software
 - The SIRxpert® Antibiotic Susceptibility Testing Flow Software
 - SIRxpert® Bidirectional
- Options:
- Tables supporting the ORION SIRscan®
 - Articulated arm allowing support for the screen, mouse, keyboard and barcode reader.
 - SIRxpert® Abbreviations (when using i2a disks)
 - SIRxpert® batch traceability (when using i2a disks)

5.1 Technical specifications and installation

5.1.1 Technical specifications

- Dimensions (mm): 1063 W x 1124 H x 763 D
- Net weight: 196.4 kg (empty)
- Installation category: II
- Pollution level: 2
- Mains voltage: 100-240 VAC, 60-50 Hz
- Power consumption: 350 W max
- Heat dissipation: 1364 Btu/hr
- Noise level: 55db max

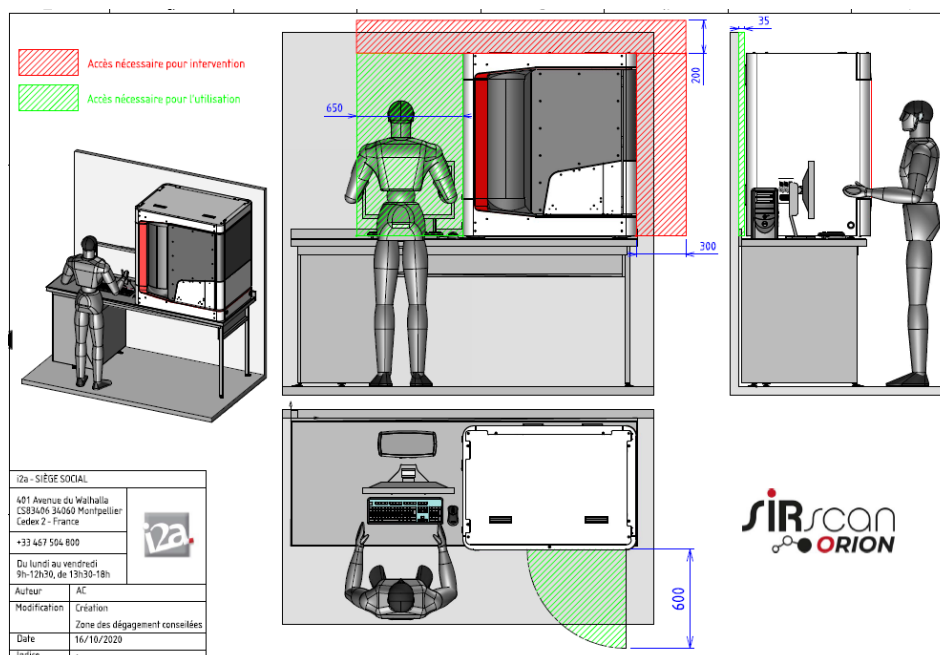


The SIRscan® ORION is a large automated system, therefore it is necessary to provide sufficient space to accommodate the system in the best conditions for the laboratory and to facilitate maintenance operations.

The SIRscan® ORION must be installed on a support that can bear the weight of the product.

Therefore, it is necessary to plan for support, taking into account:

- From the PC and the screen.
- The arrangement of Petri dishes to be read and already read.
- Access points for maintenance interventions.



5.1.2 Electric

The SIRscan® ORION is protected by 2 reference input fuses T4AH250V.



T4AH250V = Time-delay fuse, size 5*20, 4A, 250VAC, breaking capacity 1500A.

The system meets the requirements of European regulations concerning In Vitro Diagnostic Devices.

The SIRscan® ORION must be connected to a dedicated UPS (be careful not to connect the printer or the screen to the UPS).

The power switch for the SIRscan® ORION is located on the left side of the device.

5.1.3 Computer network

The SIRscan® ORION must connect to the laboratory network in order to benefit from all functionalities, including remote maintenance.

It is therefore necessary to provide nearby (preferably <10 m) two RJ45 10/100BASE-T network sockets to connect the SIRscan® ORION and the barcode printer to the network.

5.1.4 Environmental

Place the SIRscan® ORION in a room at room temperature (between 19 and 26°C).

Do not place the SIRscan® ORION near a heat source to avoid overheating.

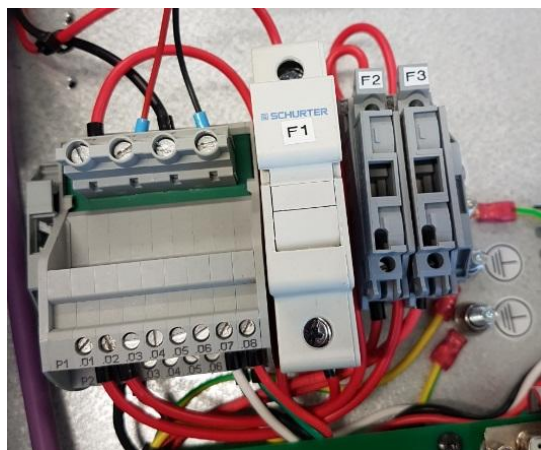
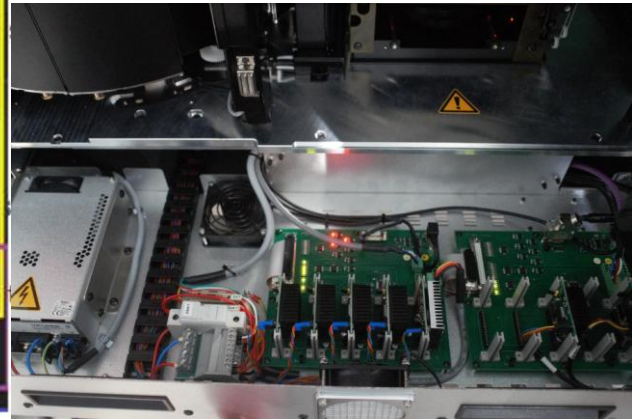
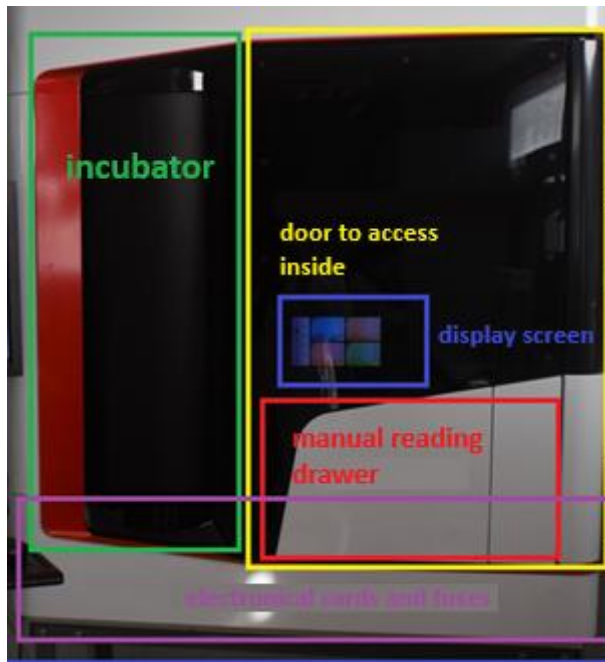
Allow a space of 3.5cm around the ventilation openings, and ensure that they are not obstructed.

5.1.4.1 Physical constraints of the machine

The ORION SIRscan® is composed of several distinct parts:

- Incubator: which allows loading/unloading plates and incubating the plates: The incubator is divided into 4 racks containing 12 loading positions. The temperature of each rack is controlled independently.
- Display screen
- Manual reading drawer: Allows manual readings to be made when the machine is not reading automatically.
- Access door to the inside of the machine: Caution: the manual reading drawer must be closed in order to open the machine without damaging it.
- Drawer containing the circuit boards/fuses (with easy access for after-sales service):
Warning: the access door inside the machine must be open to access the drawer.





Electrical characteristics of the fuses (replaceable only by qualified personnel):

F1 = Fast, 20A, 1000Vdc, breaking capacity: 20kA
 F2 = Time-delay fuse, 5A, 150 Vdc, breaking capacity: 10kA (UL) / 250Vac, breaking capacity: 1500A (IEC)
 F3 = Time-delay fuse, 5A, 150 Vdc, breaking capacity: 10kA (UL) / 250Vac, breaking capacity: 1500A (IEC)
 (H = High breaking capacity)

- A PC is required to operate the Orion. It must be placed near the SIRscan® ORION. It can be placed to the right or left of the machine. It is strongly recommended to place it to the left of the machine.
- A touch screen: The use of the touch screen is recommended for loading and unloading functions only.

5.1.4.2 Computer prerequisites

The SIRscan® ORION operates under a SIRxpert® system which requires a dedicated server that meets the server prerequisites (see MU-1475), running under ADS 12v2 and SIRxpert® V101.5 minimum.

The EN-1868 delivery prerequisites must have been previously fulfilled and studied in order to find the best placement in the laboratory.

It is **mandatory** that the SIRscan® ORION be installed on the same VLAN as the server where the SIRxpert® application is installed.



The installation of the antivirus software is the responsibility of the laboratory's IT department in order to guarantee optimal security of the automated system.

The latter must be **obligatorily** configured by excluding the following directories from real-time analysis (and not from scheduled analysis):

C:\ImageBank
C:\Sirweb
C:\Program Files (x86)\Advantage 12.0
C:\SirwebdbADS\
C:\BASESIR
C:\opencv
C:\MinGW
C:\Program Files (x86)\STEMMER IMAGING
C:\windows\SysWOW64\CVMgmtSvc.exe
C:\Program Files (x86)\CodeMeter\Runtime\bin\CodeMeter.exe

If a local or domain firewall other than Windows Firewall is in use, it is best to disable the Windows Firewall in the "Control Panel" (note: keep the "Firewall" service active).

For the software or router acting as a firewall, the following ports must be allowed in the following directions: inbound **and** outbound :

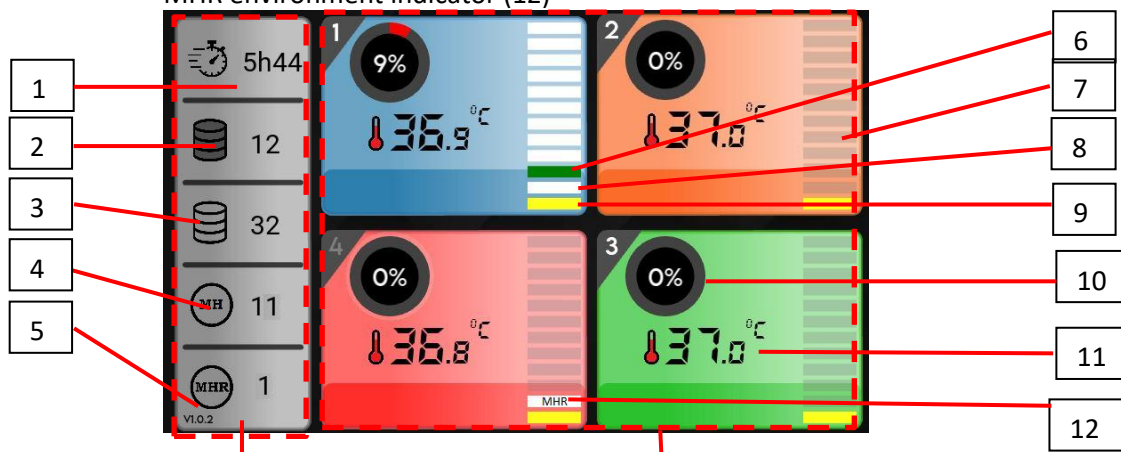
- 20, 21: FTP
- 25, 465 or 587: SMTP address depending on the one provided by the client.
- 139, 211, 250-255, 445, 2000-2030: TCP
- 6262: TCP/UDP

5.2 Rack status display screen

A screen is present on the front of the SIRscan® ORION. This screen is a slave, meaning it only displays information and cannot allow interaction with the user.

The following information is displayed:

- Time remaining after the next reading (countdown) (1)
- Number of plates loaded (2)
- Number of places available (3)
- Number of MH (4)
- Number of MHR (5)
- Gearplate read indicator (6)
- Empty gearplate indicator (7)
- Gearplate indicator (8)
- Humidifier location (9)
- Percentage of reading progress (10)
- Temperature of each rack (11)
- MHR environment indicator (12)



Applies to the entire ORION SIRscan®

Applies to each of the SIRscan® ORION studies

6 Usage scenarios – routine use

In order to start using the SIRscan® Orion, it is imperative that all the settings have been done beforehand (Different usage scenarios are proposed in the MU-2160).

6.1 AUTOMATE startup

Turn on the SIRscan® ORION by pressing the main switch located on the left side of the machine near the power cord.

Turn on the PC.

The Windows® operating system is loading (this step may take several minutes).

A Windows® window appears and asks for a username (default "i2a") and a password (default "i2a") for access to Windows. Press "Enter", the Windows desktop will appear.

6.2 Starting SIRxpert®

The SIRscan® ORION AUTOMATE requires that the acquisition service be started (see Troubleshooting chapter).

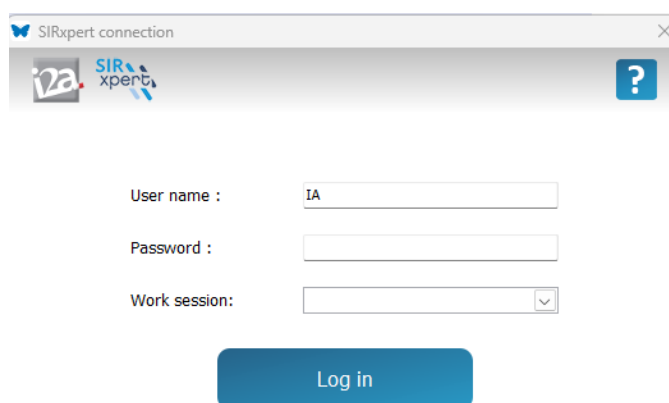
Also, on the server, various services (routine, log and http) must be started as well as the driver.

To check that it has started, you need to look for the presence of the  icon in the Windows® taskbar, at the bottom right.

If this is not the case, start it by double-clicking on its icon.

To start the SIRxpert® application, click on the  icon on the desktop.

Once on the identification window, enter the authentication information (username, password and work session if the laboratory uses it) to arrive at the general menu of SIRxpert®.



The screenshot shows the 'SIRxpert connection' window. It has a title bar with the SIRxpert logo and a close button. Below the title bar, there are three input fields: 'User name :', 'Password :', and 'Work session:'. The 'User name' field contains the text 'IA'. Below these fields is a blue 'Log in' button.

The work sessions allow direct access to certain pre-configured modules. Thus, they allow for the personalization of the workstation according to its role and offer the possibility of having an overview of the laboratory's activity.



The configuration of work sessions is detailed in the SIRxpert® settings manual (Ref MU-2035).

The system then displays the SIRxpert® general menu.

6.3 Printing barcodes on plates

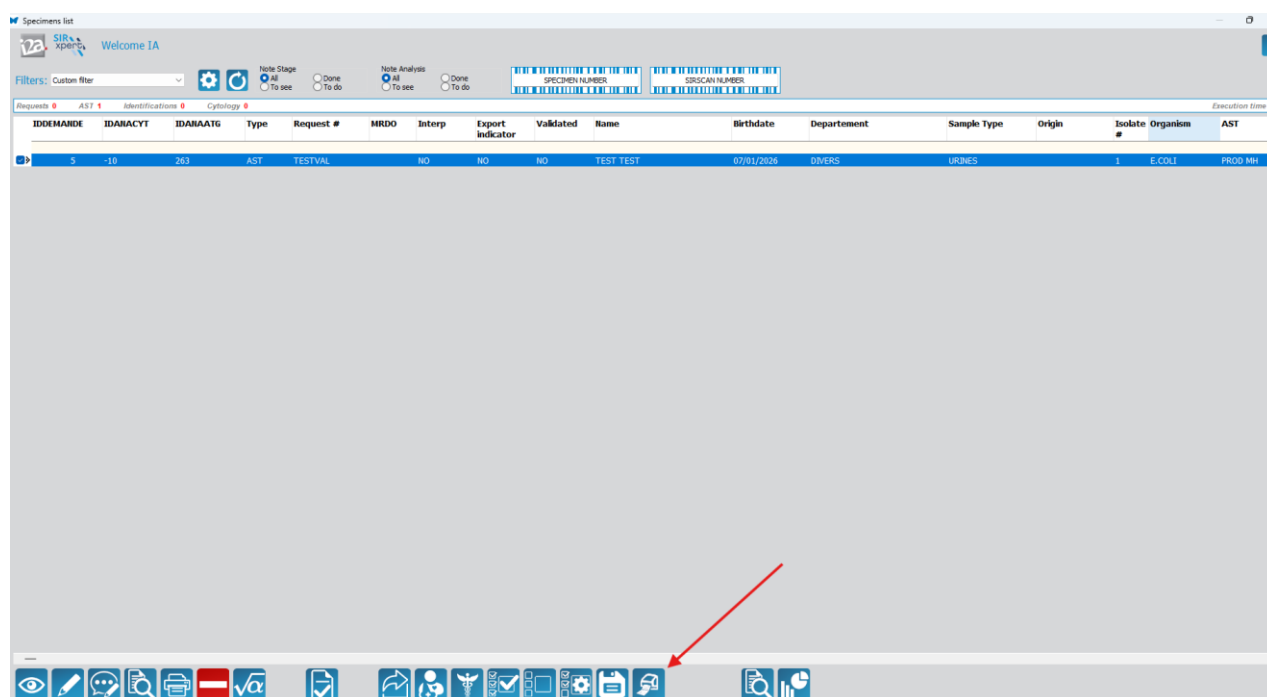
The generation of the unique plate number can be done automatically via the identification expert or by manual printing.

6.3.1 Automatic assignment of ASTs and manual printing of plate barcodes

The identification expert allows an antibiogram (or an additional plate) to be assigned directly during the creation of the identification according to various criteria: germ, samples, services, origin of the file, result of a section, etc...

To print barcodes, you need to go to the folder management (the creation of several filters is described in the SIRxpert® user manual - Parameter setting, ref MU-2035).

Select the IDs to print the labels and click on the  button.



6.3.2 Automatic printing of plate barcodes via the identification expert

The identification expert allows an antibiogram (or an additional plate) to be assigned directly during the creation of the identification according to various criteria: germ, samples, services, origin of the file, result of a section, etc...

Thus, with each new ID created, the barcode will be printed automatically.

6.3.3 Manual assignment of ASTs and manual printing of plate barcodes

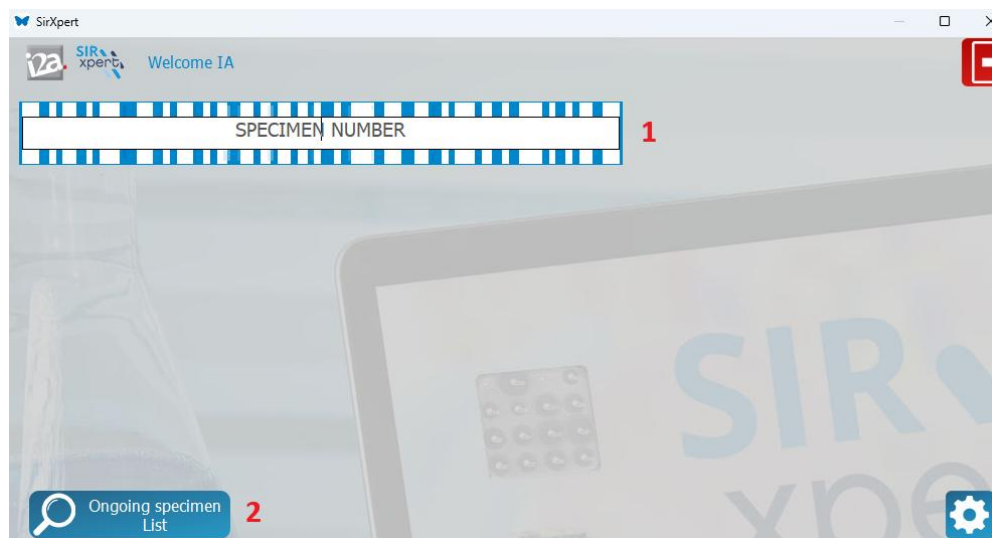
In some cases, automatic assignment of antibiograms by the identification expert will not be possible, it is then necessary to assign them manually.

6.3.3.1 AST affectation

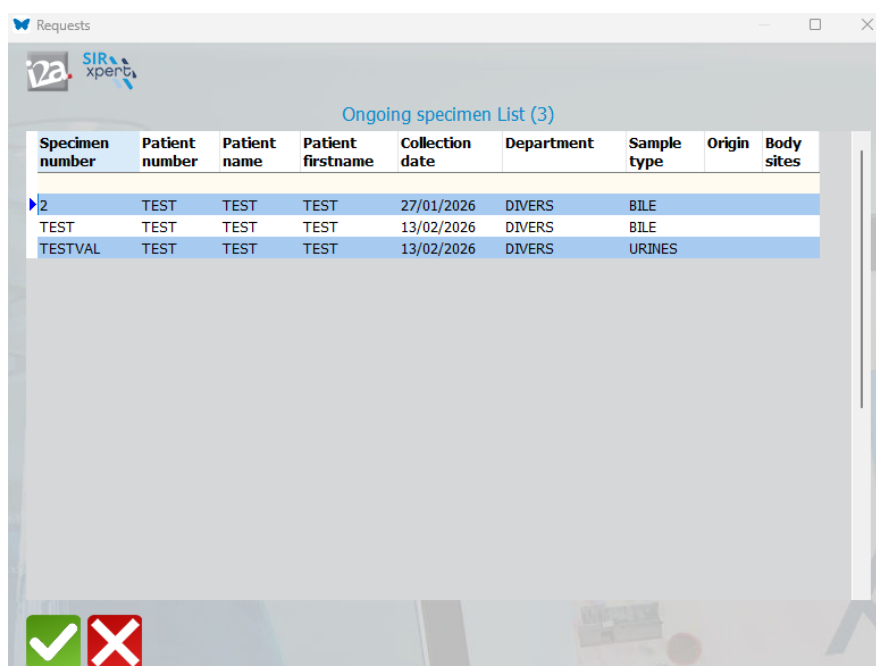
The assignment can be done uniquely, by printing one label at a time, for a file number and a specific germ.

To do this, from the SIRxpert® general menu, go to the AST> AST affectation .

A window opens to enter the request number (1):



It is also possible to find a patient in "ongoing specimen list" (2). In this case a second window will display the files currently in SIRxpert®, it is then easy to filter with the different information to find the file concerned.



Once the request has been completed, press "Enter" to access the identification window.

It includes a plate with the various patient information, and offers identifications entered manually or validated via the SIRxpert Maldi-TOF module (1):

The screenshot shows the SIRxpert software interface. At the top, there is a header with the SIRxpert logo and 'Welcome IA'. Below this is a blue bar with a white '2' and a barcode. A table displays patient information:

Req #	: 2	Patient #	: TEST	Name	
Surname	: TEST	Gender	: Unknown	Birthdate	
Stay #	:	Department	: DIVERS	Physician	
Sample date	: 27/01/2026	Sample type	: BILE	Origin	

Below the table, it says 'Attached analysis list : AST (0), Identification (1)'. A blue button with a white plus sign and the text '1. E. COLI' is shown, with a red '1' next to it. At the bottom, there is a 'Back' button and a green plus sign button with a red '2' next to it.

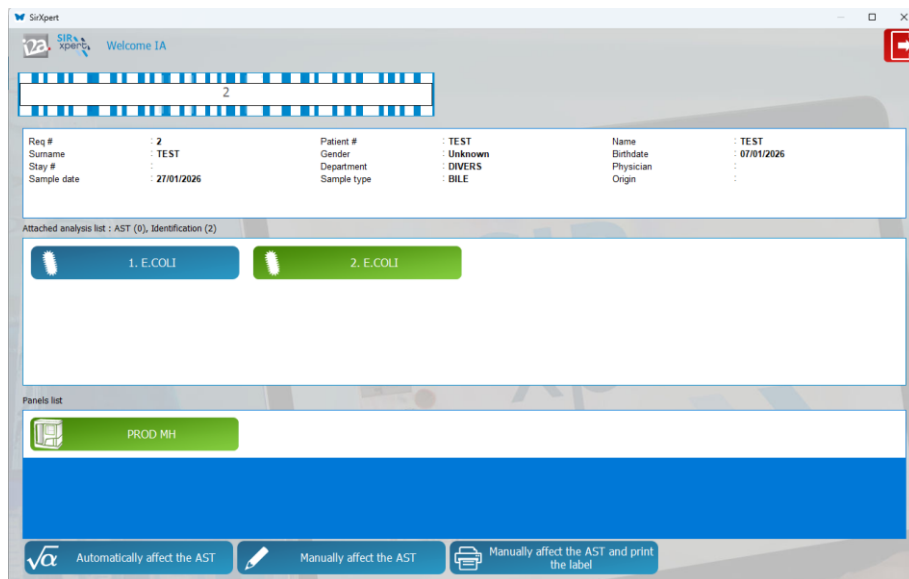
If the identification is not entered, it is possible to add it at this stage by clicking on the  button (2), then simply add the germ by selecting it from the drop-down menu and modify its order number if necessary.

The screenshot shows the SIRxpert software interface with the 'Identification creation' form open. The form has the following fields:

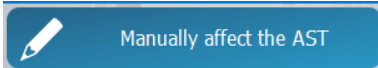
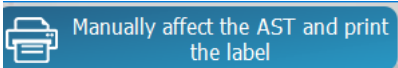
- Organism: A dropdown menu with a blue arrow icon.
- Isolate number: A text box containing '2' and a red 'X' icon.
- ID informations: A text box.
- MS Score: A text box.

At the bottom of the form, there are two buttons: a green checkmark button and a red 'X' button.

Once the germ is selected, the SIRxpert® will suggest the panels that can be associated with this identification; you must then select the desired antibiogram:



Finally, click on:

- 
 to assign the antibiogram without printing the unique barcode label
- 
 to assign the antibiogram by printing the barcode label

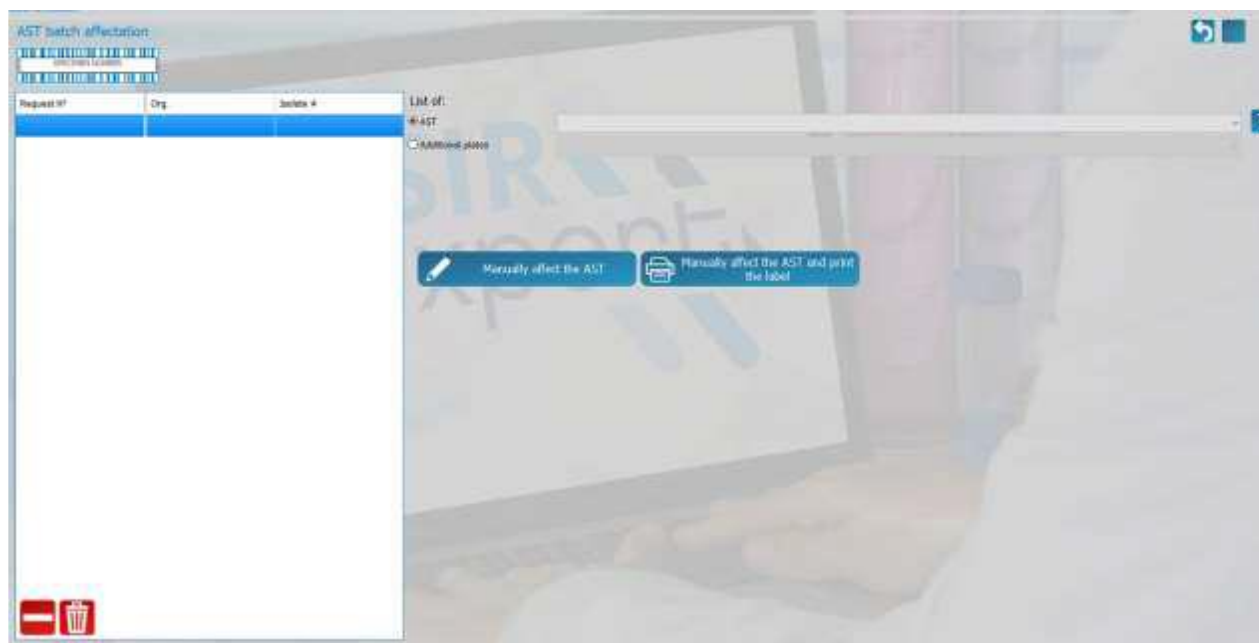
6.3.3.2 AST affectation by sequence

In cases where multiple records need to be assigned to the same panel, it may be useful to print the labels in series via the "Antibiogram assignment by sequence" menu.

To do this, from the SIRxpert® main menu, go to the menu **AST > SIRscan > AST batch affectation** .

This menu allows you to create lists of several identifications to which it is possible to assign the same antibiogram.

In SIRxpert® versions **101.5.12. For X** and lower, the window looks like this:



Since version SIRxpert® **201.1. For XX** and higher, the window looks like this:

In both cases, you must first select the antibiogram panel (or the additional plate) to be assigned to the analyses.

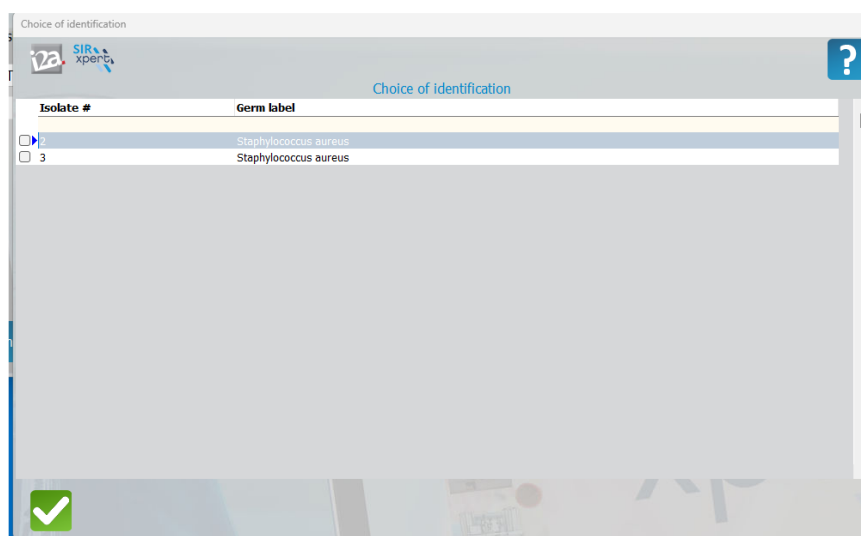
When the antibiogram is selected, simply enter all the request numbers to which this AST should be assigned using the "Specimen Number" plate:

The assignment will only take place if the identifications are compatible with the selected antibiogram.

If this is not the case, the following message appears:

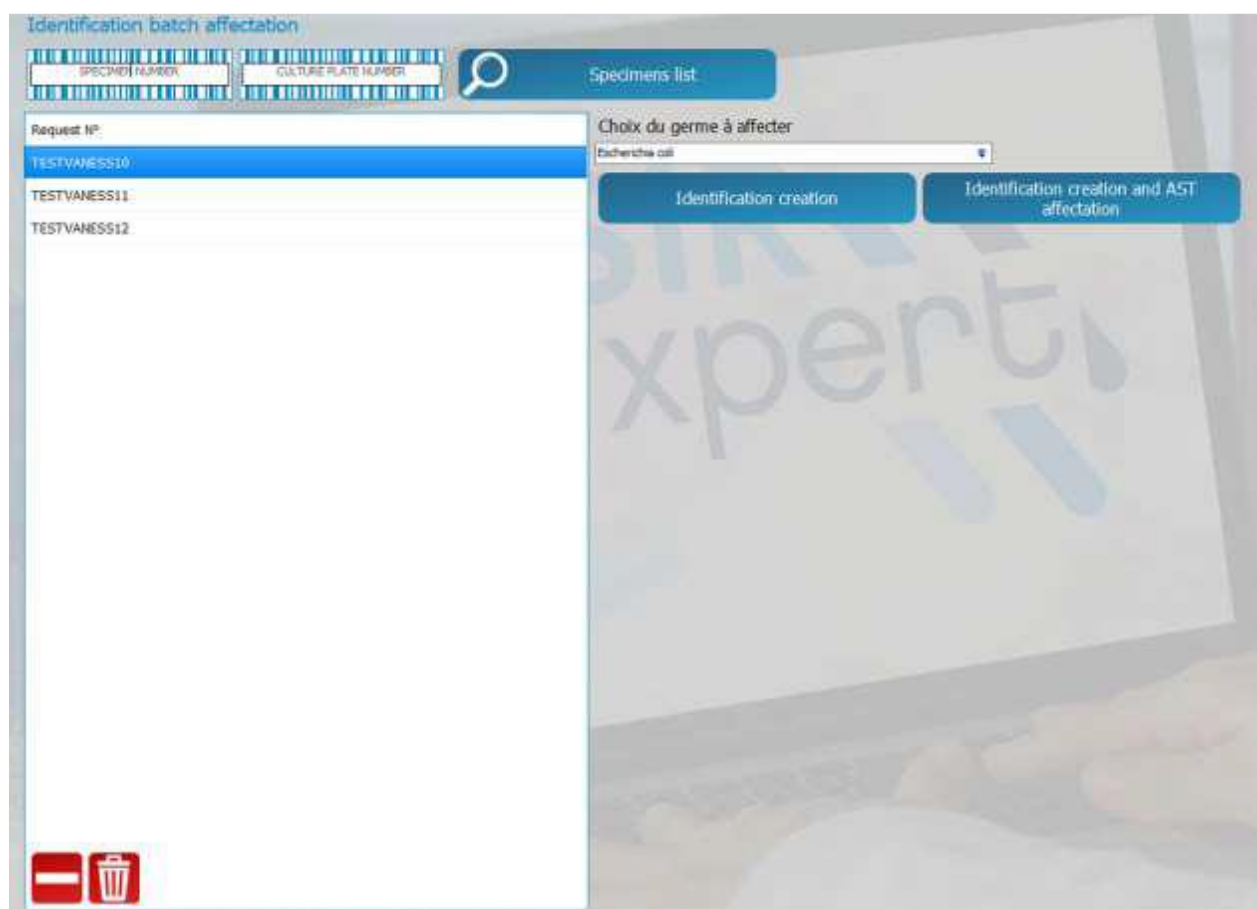


If several compatible identifications are present on the file, a window will appear where you simply select the desired identification(s) using the check mark, then click on the  button to confirm the choice.



Scan all requests that match the chosen antibiogram. The list increments as you go, indicating the germ and its isolate number.

SIRxpert® versions **101.5.12. X** and lower:



SIRxpert® versions **201.1. XX** and higher:

AST batch affectation

Choice of the type of box to assign

☒ AST

☐ Additional plates

BGN URINAIRE

Request N°

Type of analysis

Org.

Isolate #

Request N°	Type of analysis	Org.	Isolate #
TEST	IDE	Escherichia coli	1

Manually affect the AST

Manually affect the AST and print the label

The  button allows you to delete a patient who was scanned in error. And the  button allows you to clear the entire entered list. A confirmation message will be requested for both actions.

Once the list is compiled, simply click on:

-  **Manually affect the AST** to assign the antibiogram without printing the unique barcode label
-  **Manually affect the AST and print the label** to assign the antibiogram by printing the barcode label

In the case of an additional plate, the procedure is the same but the filter is not based solely on identifications. All IDE and ATG analyses can be added to the list.

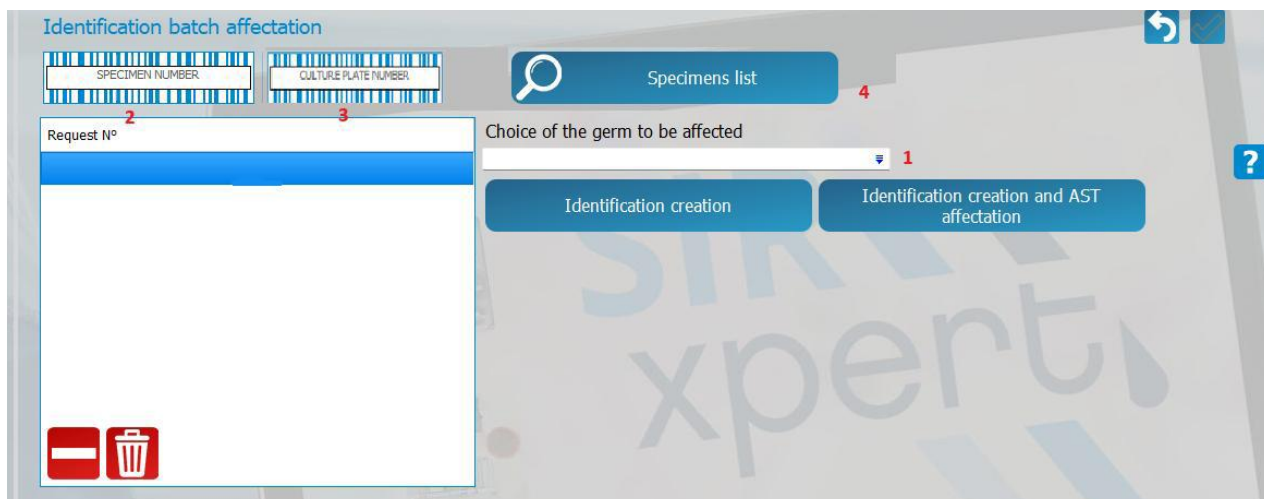
6.3.3.3 Sequence identification assignment

For laboratories that do not receive identifications upstream, it is possible to create identifications by sequence and then pre-select them in the "Assignment of antibiograms by sequence" menu.

To do this, from the SIRxpert® main menu, go to the menu **AST > SIRscan > Create identification by sequence** .

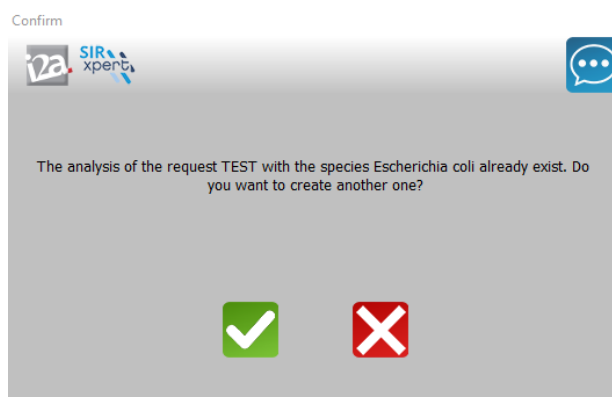
First, you must select the germ to be affected using the drop-down menu:

Once the species is selected, simply enter all the application numbers to which this species should be assigned using the "Application Number" plate:



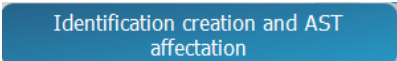
The identification sequence number is automatically calculated (+1).

If the chosen germ is already known for a file, a message appears to confirm the creation of a second order number:



In this case, click on  to create a second order number (isolate). Otherwise, click on  to cancel its creation.

Once the list is compiled, simply click on:

-  to create identifications alone (without linking to an antibiogram)
-  to create the identifications and proceed to the "Assignment of antibiograms" menu

6.4 Performing the AST

Once the barcode label is printed, the antibiogram can then be prepared.
To begin, stick the label on one of the sides of the plate.



Seed the plate.



It is recommended to carry out antibiograms using the SIRscan® kit (ref.041003) composed of inoclic, SIRscan® Swab and 0.7mL physiological water tube in order to have a standard inoculum and to limit the presence of streaks on the agar plates.

Use an i2a dispenser to place the discs onto the agar. The antibiotic indicating the reference position is in **position 3** for round plates and in **position 8** for the square plate.

i2a dispensers have a label in the correct position, so you just need to align the two labels on the same side (plate and dispenser) and then place the discs in.



No label should be stuck underneath the plate. This action may stop playback.

6.5 Link to distributors (optional) – Special case



If the laboratory uses i2a antibiotic discs with antibiotic batch traceability activated. If several distributors are used for the same plate, it is necessary to link the plates to distributors (very special case).

To do this, from the SIRxpert® main menu, go to the menu **AST > SIRscan > Link plates and dispensers**

Scan all plate barcodes stuck on the plates in the "SIRscan Number" plate (1). Then scan the dispenser's barcode in the "Dispenser Serial No." plate (2):

In this case, all plates that have been scanned will be assigned with the batch numbers of the antibiotics present in the dispenser.

Specimen number	Complete isolate number	Identification	AST	plate	Plate barcode
TESTSMO	4	56	Enterobacterales	Enterobacterales 1	00000044
TESTSMO	4	56	Enterobacterales	Enterobacterales 2	00000045

Each time the batch number changes, the dispenser must be modified and then the new plates scanned; the new dispenser will then be assigned.

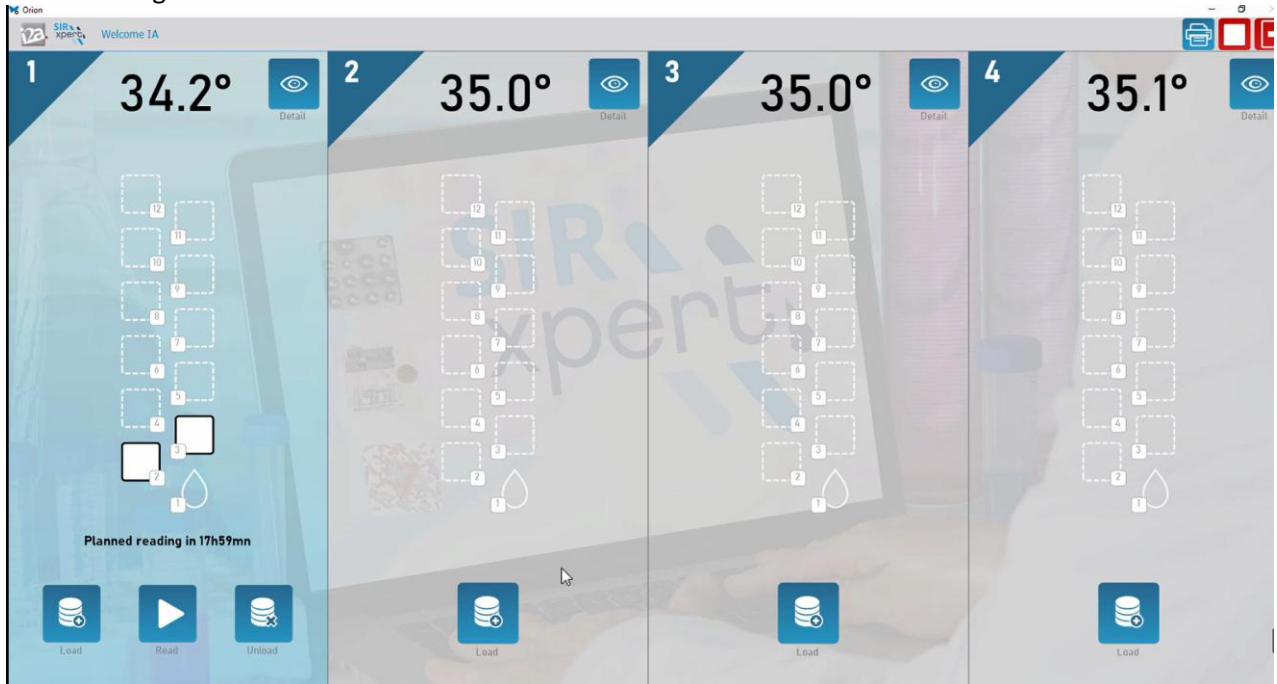
The button allows you to delete a plate that was scanned in error. And button clears the entire entered list.

6.6 Rack Management – Loading/Reading/Unloading

The SIRscan® ORION allows for the incubation of antibiogram plates under an aerobic atmosphere.

Antibiograms requiring incubation under anaerobic, microaerophilic or CO₂ atmosphere can nevertheless be read automatically once incubation has been carried out in the appropriate incubators.

From the SIRxpert® main menu, in the menu **AST > SIRscan > SIRscan Orion** , the tab allows access to the management of the incubator racks:

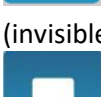
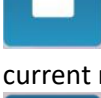


This screen represents the 4 racks and allows you to see the reading status of the different incubated antibiograms.

Global actions are displayed in the top right corner of the page:

-  : allows printing the details of all racks
-  : allows you to stop reading all racks (in this case, the AUTOMATE will finish the current reading).
-  : allows you to minimize the window

Each rack has dedicated buttons, which are dynamic depending on the rack's state:

-  : allows you to add incubator plates (invisible if the rack is full)
-  : allows unloading one or more plates (invisible if the rack is empty)
-  : allows you to start reading the selected rack or plates (invisible if the rack is empty)
(invisible if the rack is currently being read)
-  : allows you to stop reading the selected rack (in this case, the AUTOMATE will finish the current reading) (invisible if the rack is not being read)
-  : allows you to view the details of the racks

If an action needs to be performed on only one or more plates, simply click on the plate(es) in question to select them (a red plate will then appear) and then click on the desired action:

- Unload 
- Read 

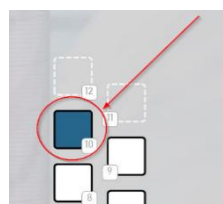


Square plates are represented by square plates, round plates by round plates.

There are several reading states for the plates, which are represented by a color code:

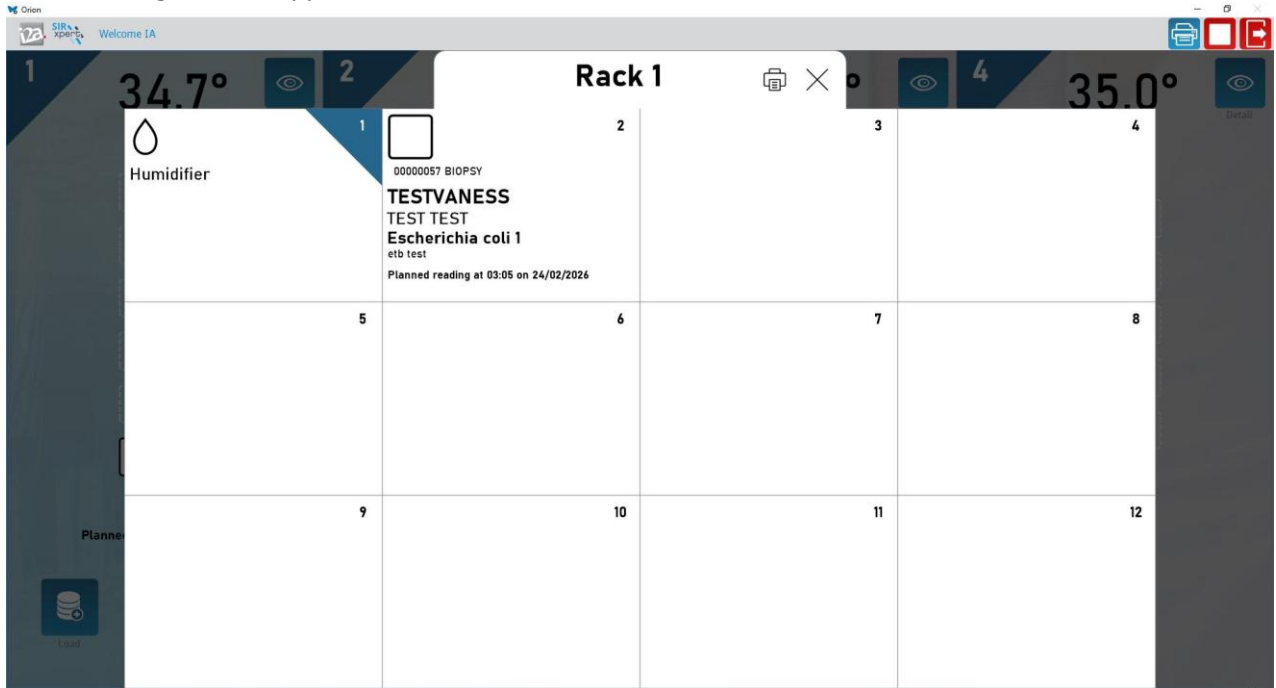
- White: plate loaded during incubation
- White with yellow dot: plate being read
- White with blue dot: next plate to read
- Green: plate read
- Red: Plate read with error

From version **201.2.2.0** of SIRxpert®, when an MHR agar is still in incubation and has been read and validated by a user, it appears in blue in the loading screen of the SIRscan® Orion.



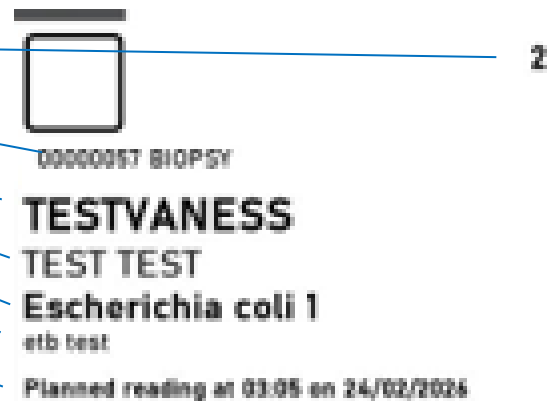


On each rack, it is possible to display the details of the rack by clicking on the button. The following window appears:



It allows you to see the details of the plates loaded:

- Position in the rack + reading status
- Unique barcode number
- Patient request number
- Patient's first and last name
- Species and order number
- Antibigram Panel
- Date and time of reading



Click on the icon  to print the details of the selected rack, otherwise click on the cross  to exit.

6.6.1 Loading Rack

There is no order for loading the racks. Thus, it is possible to start loading antibiogram plates or additional plates into any rack. However, it is necessary to respect the loading order proposed by the AUTOMATE within a rack (position 2 to position 12).



Loading antibiogram plates into the SIRscan® ORION cannot be done when it is in automatic reading mode. If a plate needs to be loaded while the machine is reading, you



must press the STOP button to pause it. The plate can then be loaded. Then, resume playback.

To start loading, from the main menu, open the menu **AST > SIRscan > SIRscan Orion** , then click on



the button to open the desired rack (if the rack is not in the loading position, the oven will rotate to present the rack in the loading position).

The following window opens to specify the plate(es) to load:



The plates are loaded in order from bottom to top. If plates have been unloaded, the first available position will be presented for loading.

The current loading position is indicated on the left side of the page (outlined in red).



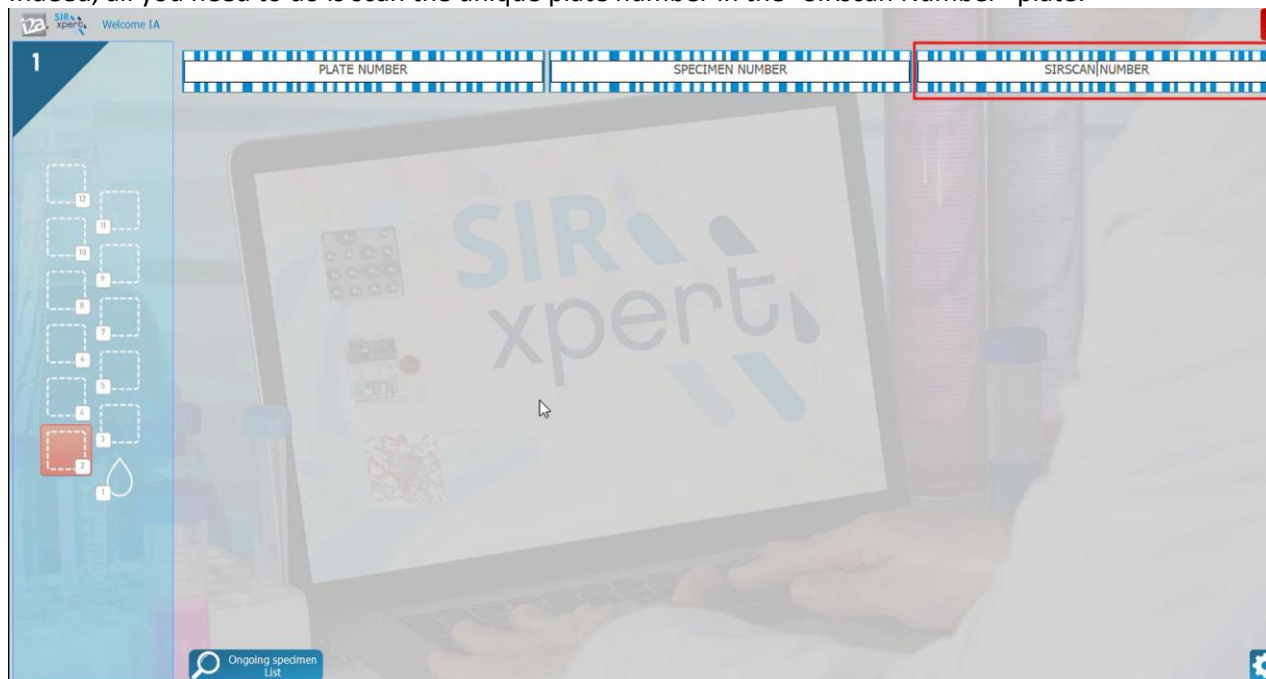
Position 1 of each rack is reserved for the humidifier (symbolized by ) . The other positions can be occupied by book plates.

There are different cases depending on the laboratory configuration and the different types of numbers to be scanned.

6.6.1.1 Use of the SIRscan number

Loading with the unique plate numbers generated by the SIRxpert® (called "SIRscan Number") is the most recommended and also the fastest method.

Indeed, all you need to do is scan the unique plate number in the "SIRscan Number" plate:

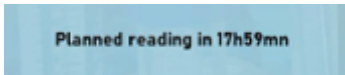


The plate is then automatically added and the next plate can be scanned directly afterwards. With this unique number, it is possible to load all the plates into the incubator with the barcode facing the user and to scan the plates in the oven as they are loaded into the computer.

Once the upload is complete (or all 12 positions are filled), click on button , the system will automatically display the following message: Careful, the doors are closing.

Beware of the risk of pinching your hands at the incubator doors.

Before confirming, remember to fill the moisturizing sponge with sterile water. Once the message is validated, the automated system will close the oven door.

The time remaining until the next reading is then displayed: 

6.6.1.2 Using the plate number + application number



Loading with plate number and request number is also possible (old loading method at SIRscan® 2000 Automatic).

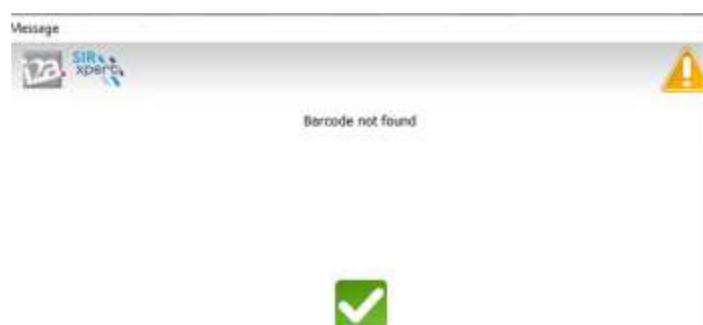
This case can be used in the event of cohabitation between a SIRscan® 2000 Automatic and a SIRscan® ORION.

Therefore, plate numbers (labels printed from distributor management) must be used to identify the plate to be read and associate the request number.



The first step is to scan the plate number so that the SIRscan® ORION recognizes the plate to be incubated.

If the barcode is correctly recognized, the cursor moves to the "Request Number" plate. Otherwise, an error message appears:

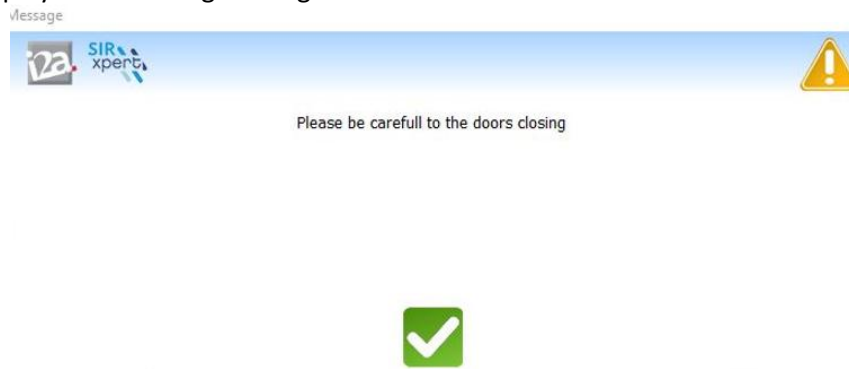


Once the plate has been identified, the second step is to link the plate to a patient request. To do this, fill in the "Request Number" field located next to the "plate number" field.

It is also possible to access the list of ongoing analyses by clicking on the  button to find the file.

To add a new plate, repeat the operation.

Once the upload is complete (or all 12 positions are filled), click on button , the system will automatically display the following message:



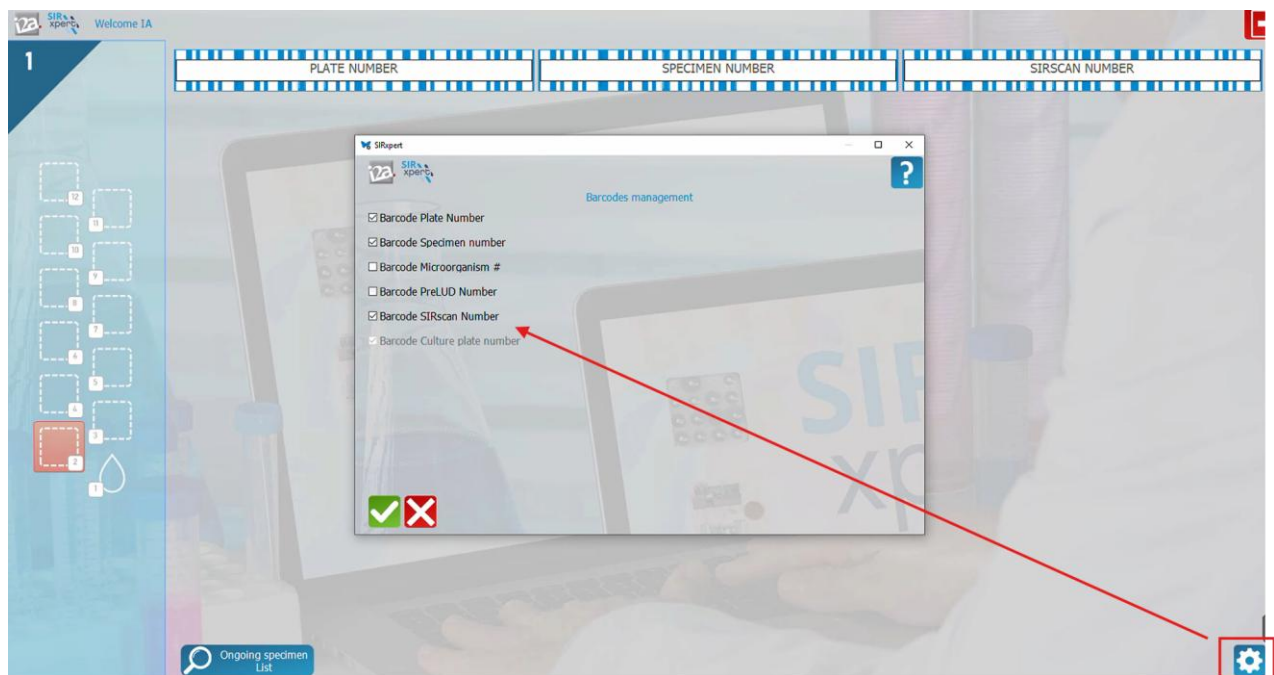
Beware of the risk of pinching your hands at the charger doors.

Before confirming, remember to fill the moisturizing sponge with sterile water.
Once the message is validated, the automated system will close the oven door.

The time remaining until the next reading is then displayed:

Planned reading in 17h59mn

From version **201.1.0.0** of SIRxpert®, when loading antibiograms into the analyzer or during manual reading, the barcode plates to be scanned can be customized according to the laboratory's needs using button :



Thus, it is possible to display only the plates used daily by the laboratory.



6.6.2 Adding plates to a rack

It is possible to modify a rack, in particular to add plates to a rack that is already partially loaded.



To do this, click on the  button to return to the management screen of the rack in question (see point 6.6.1 of this manual).

6.6.3 Deleting loaded plates/Unloading

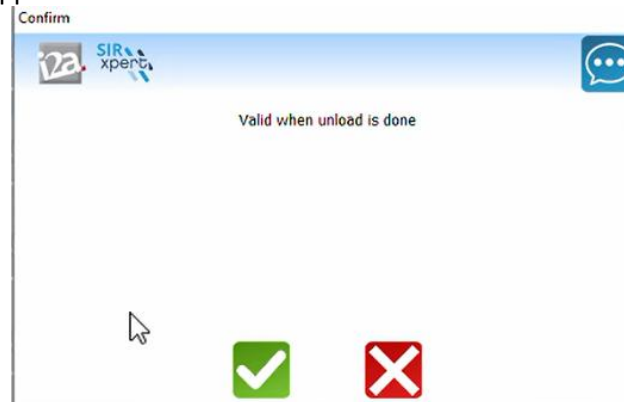
To delete and/or unload read or incubating plates in the SIRscan® ORION, select the plates to be unloaded



per rack and then click on the  button.

If the entire rack needs to be unloaded, there's no need to select all the plates. By default, the system will unload them all.

A confirmation message appears:



Click on  to confirm the unloading and close the doors, otherwise click on  to cancel the unloading and close the doors.

6.6.4 Reading without incubation

The SIRscan® ORION **incubates only under aerobic atmosphere** but can fully read all antibiograms automatically.

To do this, once the antibiograms have been pre-incubated in the appropriate incubators, load the plates



into the SIRscan® ORION, then click on the  button of all the relevant racks to start the reading without incubation.

6.6.5 Proofreading

If needed, it may be possible to replay an entire rack. To do this, click on the  button of the relevant rack. The SIRscan® ORION will then restart the complete reading of the rack.

It is also possible to select one or more plates to review. To do this, select them and click on the  button. The SIRscan® ORION will then read only the selected plates.

6.6.6 Proposed operating procedure

In order to optimize the laboratory workflow and to make the best use of the automated system. We offer a system that can be adapted to your needs:

- Inoculation of antibiogram plates and labeling
- Dispense discs
- Loading aerobic antibiograms into the SIRscan® ORION for overnight reading
- Antibiograms requiring incubation under specific atmospheres are placed in the corresponding incubators.
- The following morning, the plates on board the automated system are unloaded and the incubated antibiograms are loaded into the SIRscan® ORION for reading without incubation.

6.7 Degraded mode

If there is a problem with the Orion's loading labels, it is still possible to load the automate. To do this, two options are possible:

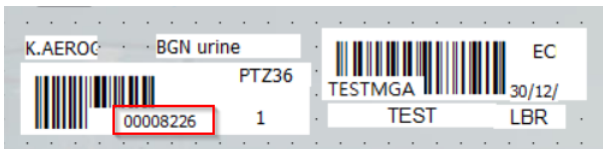
6.7.1 AST affectation

It is possible to assign the antibiogram in the same way as seen previously in point 6.3.3 of this manual. Then, using a filter from the SIRxpert®, it is possible to find the "SIRscan Number" in order to load the automate normally.

To view this number, click on the  **SIRscan barcode display** button at the bottom right of the filter (button available from version 201.2.0.0 of SIRxpert®):



This allows you to view the label that should have been printed and to note the number:



The SIRscan number is the one located at the level of the barcode that is usually scanned to load the automated system. This unique number must be entered in the "SIRscan Number" field in the loading program (see point 6.6.1.1 of this manual).

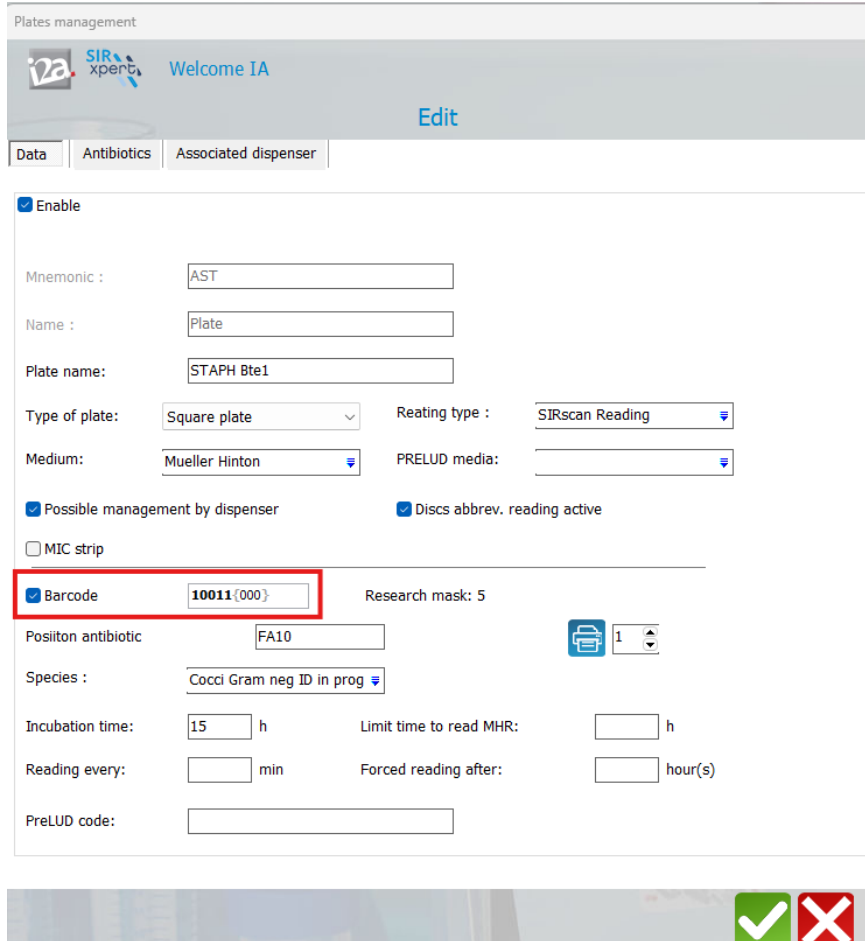


6.7.2 Plate number and application number

It is possible to load the SIRscan® ORION without using a SIRscan number. To do this, you need to use the plate number which is found in the panel settings.

From the SIRxpert® main menu, go to **Settings > Dictionaries > AST Thesaurus > Panels** .

Select the panel and the plate to load; the plate number is the one displayed in the barcode field:

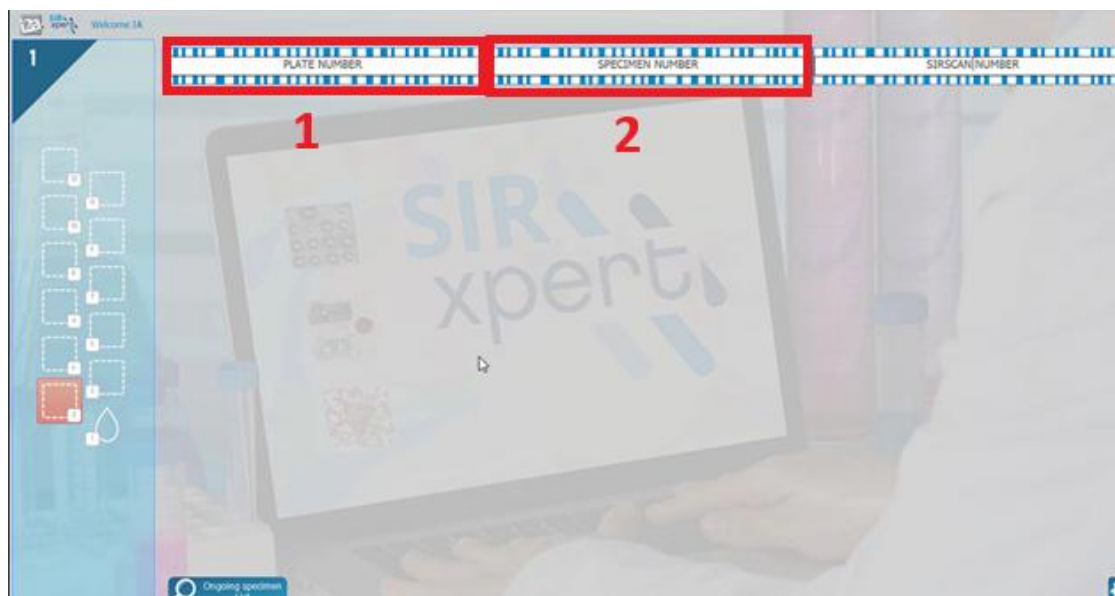


When loading the machine, you will first need to enter the barcode in the field "**plate number (1)**".

If there are several antibiograms with the same panel to be loaded into the SIRscan® ORION, variables must be entered.

Example: 10011001 for a first request number and 10011002 for a second patient.

And then enter the "**request number**" corresponding to the patient (2):



6.8 Manual reading

Manual playback uses the same menu as loading, but without indicating the loading position.

It is possible to use the same numbers as during automatic loading: "Plate number", "Request number" and "SIRscan number":



It is possible to use the request number alone; to do so, enter the patient file request number in the "Request Number" plate.

If the request is not known by SIRxpert®, reading the plate will be impossible.

However, if the request is correctly recognized, then SIRxpert® displays the patient's demographics in the "information on the attached request" plate:

Req #	: TESTVAL	Patient #	: TEST	Name	: TEST
Surname	: TEST	Gender	: Unknown	Birthdate	: 07/01/2026
Stay #	:	Department	: DIVERS	Physician	:
Sample date	: 13/02/2026	Sample type	: URINES	Origin	:

If IDE (identifications only) or ATG type analyses are attached to the request, then the software displays a window to allow the association of plates being loaded with these IDE and/or ATG analyses.

1. E.CO 35218 - ETBORION

2. E.CO 35218

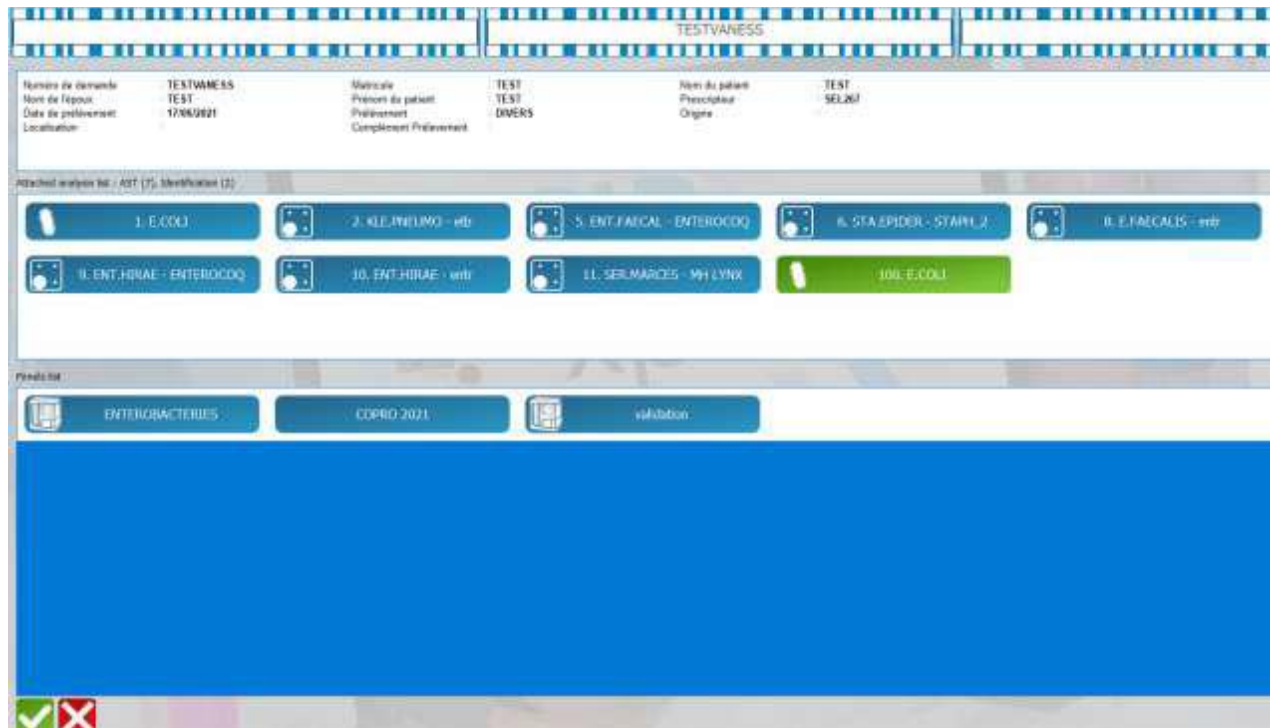
3. E.CO 35218
- : attached AST (partially or fully loaded)
 - : identification without AST attached

If the plate being read corresponds to one of the germs (same isolate) presented in the list, simply select the isolate in order to link the plate to that isolate.

To read an antibiogram that does not correspond to pre-existing analyses, click on the  button to create a new identification:

Species	
Isolate number	1 
Identification complement	
MS SCORE	

Enter the various identification details and click on the  button to validate.



The screenshot shows a software interface with a header bar and a main content area. The header bar contains patient information: 'TESTVANESS', 'TEST', 'TEST', 'TEST', 'TEST', 'TEST'. The main content area displays a list of bacterial species for selection, including '1. E. COLI', '2. KLE. PNEUMO - efr', '3. ENT. FAECAL - ENTEROCOQ', '4. STA. EPIDR - STAPH. 2', '5. E. FAECALIS - efr', '6. ENT. HIRAE - ENTEROCOQ', '7. ENT. HIRAE - efr', '8. ENT. HIRAE - efr', '9. ENT. HIRAE - efr', '10. ENT. HIRAE - efr', '11. SER. MARCES - SH LYNX', and '100. E. COLI'. The '100. E. COLI' button is highlighted in green. Below the list, there are buttons for 'ENTEROBACTERIES', 'COPRO 2021', and 'validation'.

Dispenser(s) linked to that panel

ETB 1 

Once the germ is selected, the system displays the compatible antibiograms for that germ. Then select the antibiogram to read, and the system will display the plates that make it up.

- To be able to perform traceability, simply scan the plate barcode on each corresponding frame.
- It is possible to uncheck traceability management; in this case, no batch traceability will be recorded for this reading.

The  button allows the antibiogram to be read manually, i.e. without reading by camera by the automate.

If traceability information is not provided and the "☒ Traceability Management" plate is checked, the following message appears to allow the use of current batch numbers:



There are 3 possible choices:

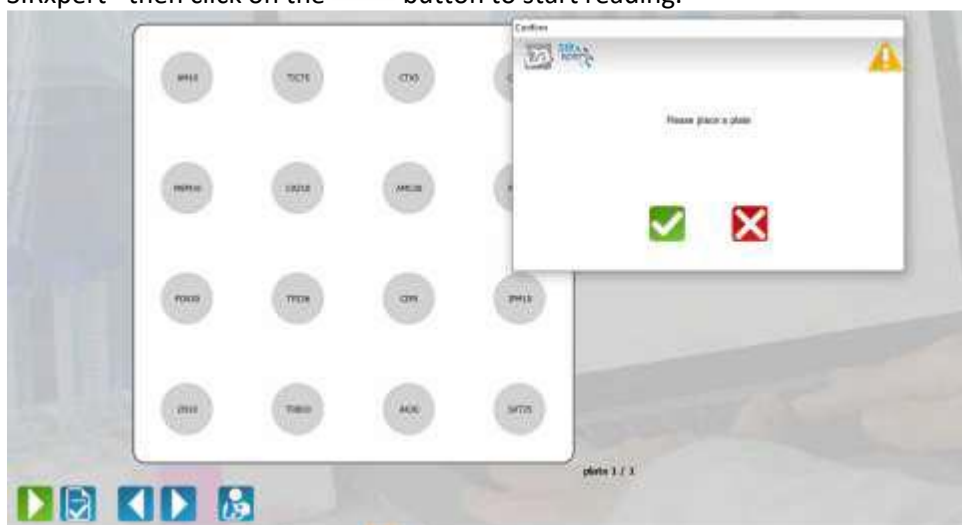
- Yes: uses current batch numbers.
- No: refer to the previous menu to scan plate numbers and have batch traceability.
- No traceability: batch traceability will not be done on this reading.

Once the option is chosen, the reading can be performed. Open the hatch (push on the hatch to unlock it and then open it). Place the tray on the drawer (white arrow to the

right).

Place the plate on the platform according to the orientation indicated by the diagram displayed by the

SIRxpert® then click on the  button to start reading.



Once the plate has been read, a "Read successfully" message appears. Several actions can then be performed:



- Go to reading validation: allows you to go directly to the reading validation menu.
- Back: allows you to return to reading.
- Switching to the previous plate: allows you to reread the previous plate (when a panel is composed of several plates)
- Moving to the next plate: allows you to read the next plate (when a panel consists of several plates)

Once you have finished reading, go to the "validate readings" menu.

6.9 Managing additional mailplates

6.9.1 Label printing

6.9.1.1 Assigning additional plates by sequence

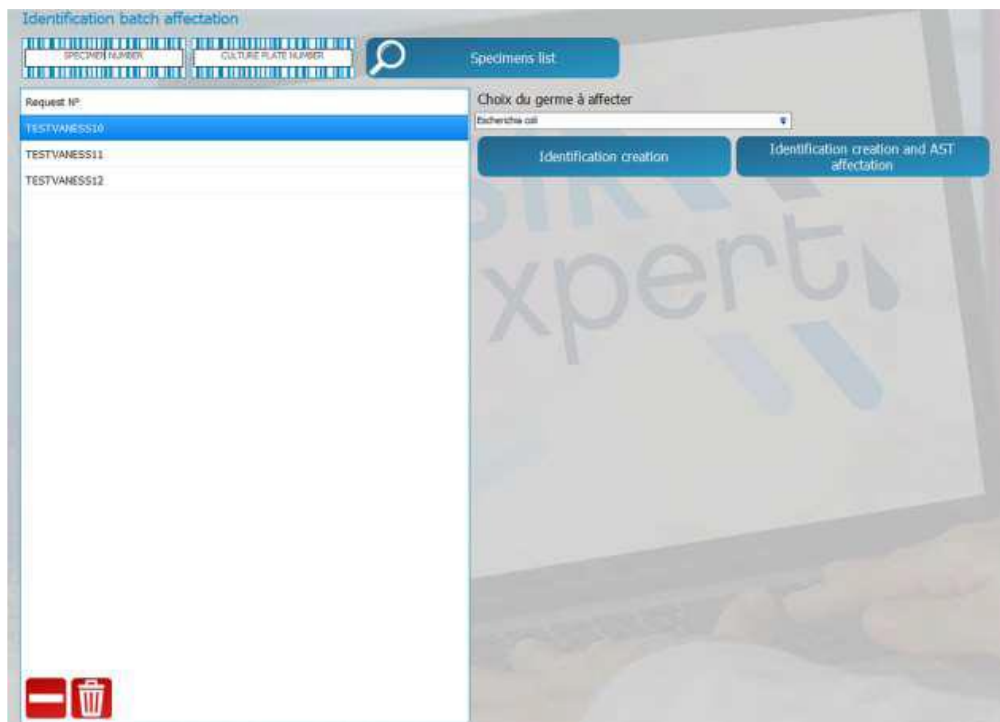
In cases where multiple records need to be assigned to the same additional panel, it may be useful to print the labels in series via the "Antibiogram assignment by sequence" menu.

To do this, from the SIRxpert® main menu, go to the menu **AST > SIRscan > AST affectation by sequence**



This menu allows you to create lists of several antibiograms to which it is possible to assign the same additional plate.

In SIRxpert® versions **101.5.12. For X** and lower, the window looks like this:



Since version SIRxpert® **201.1. For XX** and higher, the window looks like this:

In both cases, you must first select the additional plate to assign to the analyses.

Once the plate is selected, simply enter all the request numbers to which this plate should be assigned using

the "specimen Number" plate:

If several compatible identifications are present on the file, a window will appear where you simply select the desired identification(s) using the check mark, then click on the button to confirm the choice.

Scan all requests that match the chosen antibiogram. The list increments as you go, indicating the germ and its isolate number.

The button allows you to delete a patient who was scanned in error. And the button allows you to clear the entire entered list. A confirmation message will be requested for both actions.

Once the list is compiled, simply click on:

- to assign the additional plate without printing the unique barcode label
- to assign the additional plate by printing the barcode label

6.9.1.2 Assigning additional plates by sequence

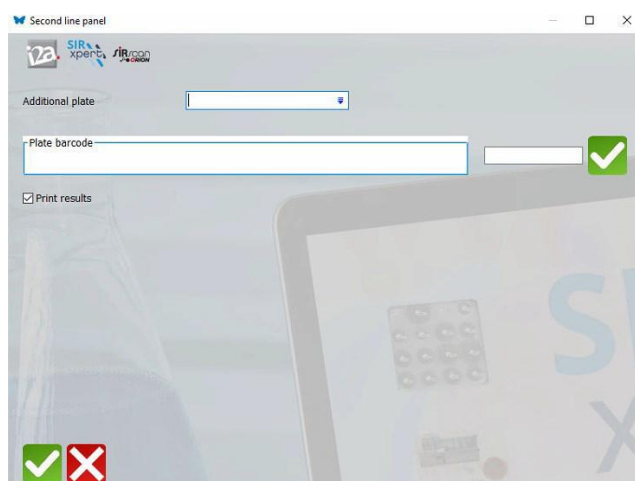
It is possible to assign an additional plate to a given antibiogram by going through the "File Management" or "Reading Validation" menus.

The reading of additional plates automatically is done in the same way as for primary antibiograms. Simply print the appropriate label. To do this, from the SIRxpert® main menu, go to the menu **AST > File Management**  or **AST > SIRscan > Reading Validation** .

Select the analysis, then click on the  button and select "Generate second intent".

Then select the secondary option to assign from the drop-down menu and click on:

-  **Génération de la boîte supplémentaire** to assign the additional plate without printing the unique barcode label
-  **Génération boîte supplémentaire et impression** to assign the additional plate by printing the barcode label



6.9.2 Manual reading of an additional plate

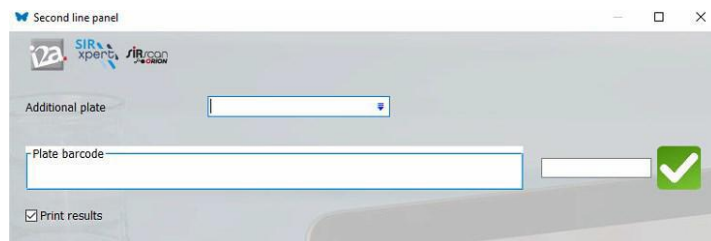
6.9.2.1 From manual reading

After reading an antibiogram by manual reading (see point 6.8 of this manual), it is possible to read an additional plate.

To do this, right-click on the antibiogram already read and select "Additional Plate":



The list of additional plates appears, select the desired plate from the drop-down menu and assign the plate's barcode for batch traceability.



It is also possible to directly scan the unique barcode for manual reading as well.

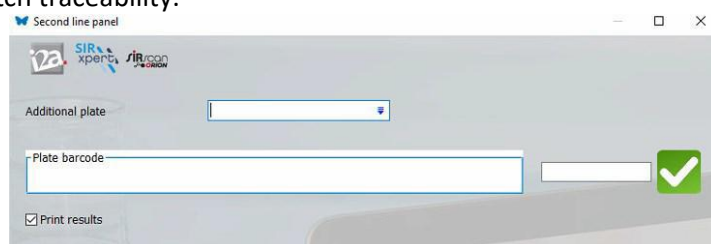
6.9.2.2 From file management/Reading validation

It is possible to read an additional plate to a given antibiogram by going through the "File Management" or "Reading Validation" menus.

To do this, from the SIRxpert® main menu, go to the menu **AST > File Management**  or **AST > SIRscan > Reading Validation** .

Select the analysis, then click on the  button and select "Read the second intent".

The list of additional plates appears, select the desired plate from the drop-down menu and assign the plate's barcode for batch traceability.



It is also possible to directly scan the unique barcode for manual reading as well.

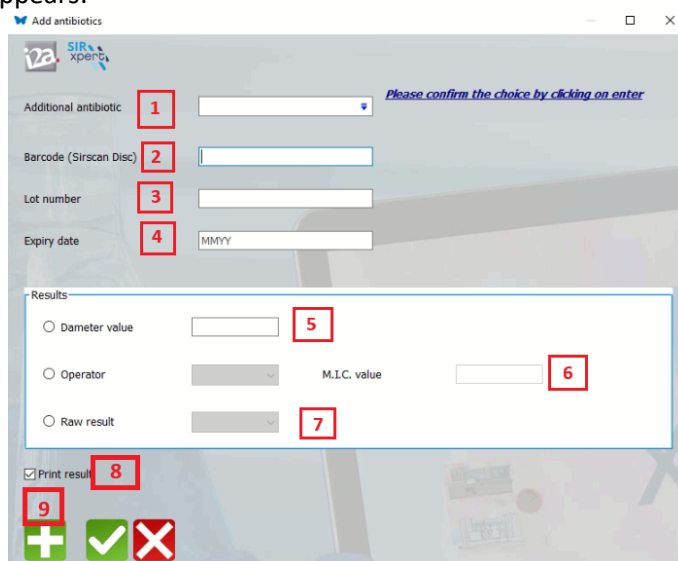
6.9.3 Adding an additional antibiotic

It is possible to add a result from an antibiotic that was not included in the antibiogram settings (e.g., MIC strip).

To do this, from the SIRxpert® main menu, go to the menu **AST > File Management**  or **AST > SIRscan > Reading Validation** .

Select the analysis, then click on the  button and select "Add an additional antibiotic".

The following window appears:



1. Select the desired antibiotic from the drop-down menu and press the "Enter" key.
2. If necessary, scan the barcode available on the packaging of the i2a antibiotic disc.
3. If necessary, enter the batch number of the i2a antibiotic disc.
4. If necessary, enter the expiry date of the i2a antibiotic disc.
5. If necessary, enter the disk diameter values.
6. If necessary, enter the MIC values from the strip.
7. If necessary, enter the gross result (S, I or R).
8. Just like second-line antibiograms, the result of an additional antibiotic is automatically edited if the "☑ Edit result" plate is checked.
9. Allows for the addition of another antibiotic and the performance of a single assessment.

Once the reading is complete, the SIRxpert® will re-evaluate the antibiogram, taking into account the additional result(s), and will then display an updated results sheet.

6.10 Specific Case PreLUD® AST (not available outside of France)

Section not described.

6.11 Shutting down the automate

To turn off the scanner, simply press the on/off button on the machine at the bottom left of the SIRscan® Orion.

To shut down the PC, close SIRxpert® and exit Windows.

If the automate is switched off, it will not be able to read automatically. In order for the reading to be done correctly, it is necessary that the automate be switched on, the PC be switched on (with the SIRxpert® Orion programs open) and that the server be functional.

7 Specific case: MHR-SIR® agar

7.1 Principle

MHR-SIR® agars are agars that allow for obtaining an antibiogram by diffusion in a short time (approximately 6 to 8 hours). The use of this medium is exclusively reserved for users of the SIRscan® Orion allowing reading of fine shoots.

A specific algorithm determines whether bacterial growth is sufficient or if the dish needs to be re-incubated.

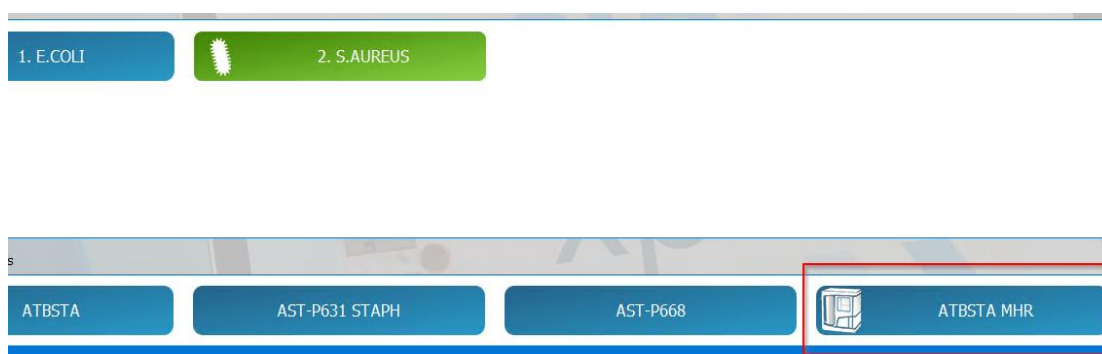
7.2 Use

The preparation of the inoculum for MHR-SIR® agar plates can be done according to two different protocols:

1. Starting from a bacterial colony using the Inoclic® device. For more information, refer to the Inoclic® **FP-0341** device user manual.
2. From a blood culture bottle according to a precise protocol. For more information, refer to the instructions for use of the MHR-SIR® **FP-0340** medium.

During routine operation, the assignment of antibiograms on MHR-SIR® agar plates is identical to that of standard antibiograms (see paragraph 6.3 "Printing of plate barcodes" of this manual).

Note that in order for the SIRscan® Orion to recognize an antibiogram performed on MHR-SIR®, it is necessary to correctly select the corresponding panel:



Once the labels have been printed, the loading of the antibiograms into the automated system is identical to that detailed in paragraph 6.6 "Study management - Loading/Reading/Unloading" of this manual.

When the agar plates are loaded and incubating, the indicator "MHR" appears on a white background on the rack status display screen:



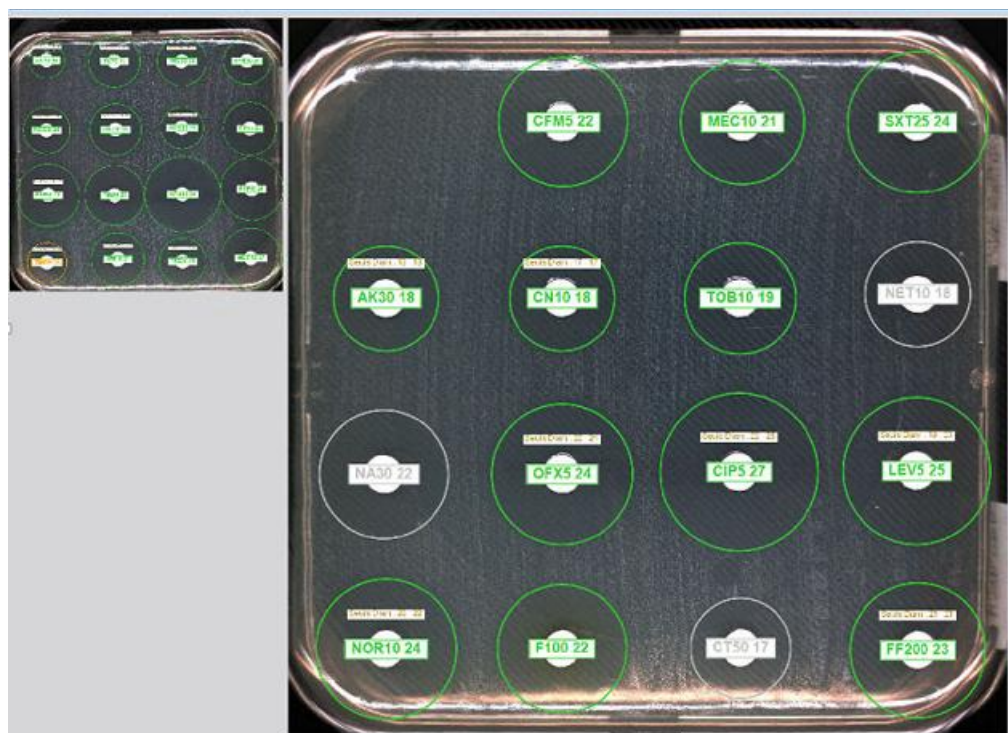
7.3 MHR-SIR® Reading

After 6 hours of incubation, a first reading is made by the SIRscan® Orion. It then automatically detects if the growth is sufficient for a correct reading. If this is not sufficient, the agar will then be put back into incubation and will be read again 30 minutes later (time before rereading). The action will be repeated up to 8 hours of incubation (MHR incubation limit time configurable in the antibiogram panel).

Once this time has elapsed, if growth is still insufficient, the agar will be incubated like a classic MH agar (time defined by the CASFM-EUCAST in force at the laboratory).

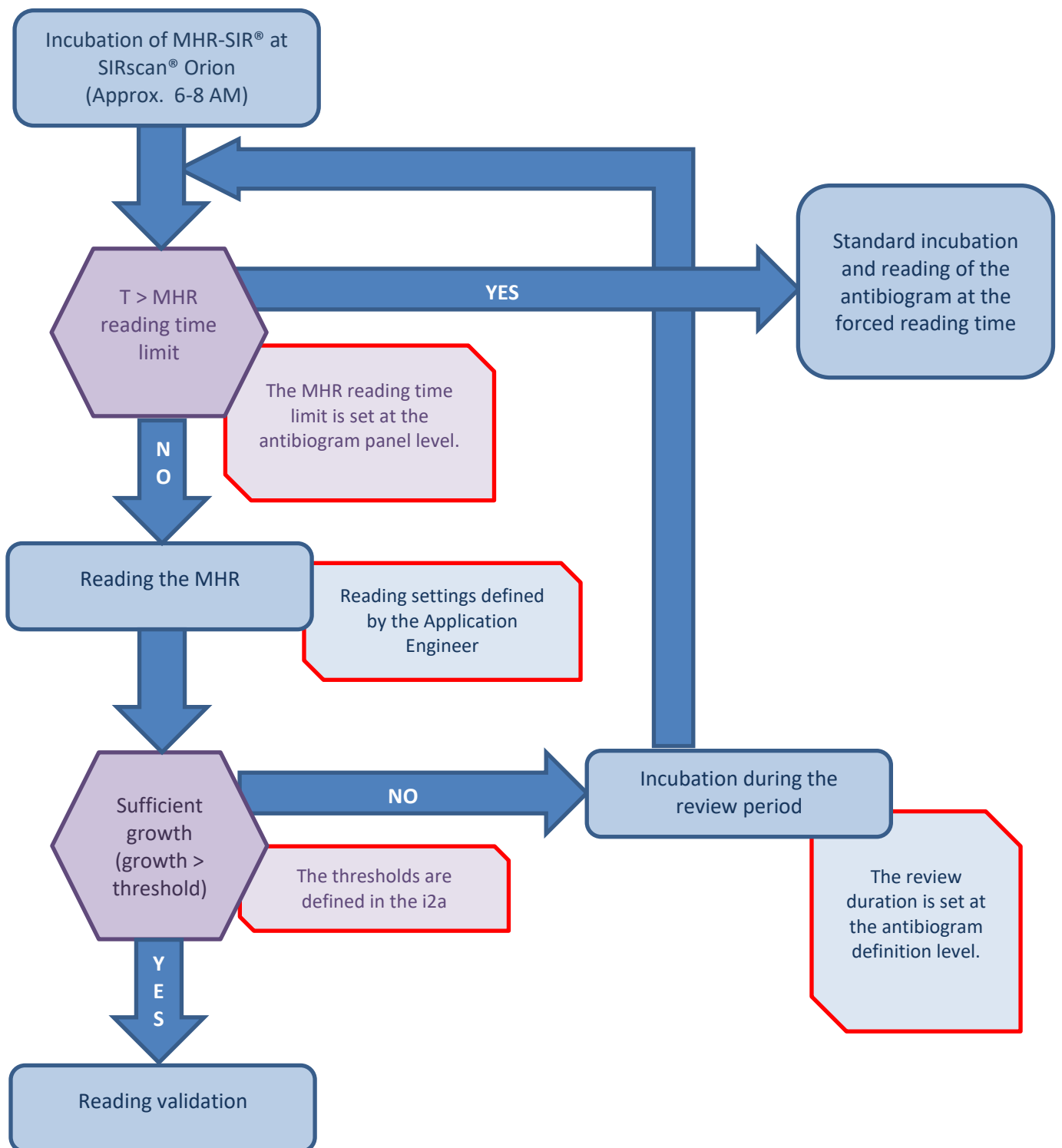


Example of an *Escherichia coli* after 6.5 hours of incubation:



Once the agar plates have been read by the automated system, the validation of the antibiogram reading will be done in the same way as standard antibiograms (See. paragraph 8 “Validation of antibiograms” of this manual).

7.4 Summary diagram of MHR-SIR® management



8 Validation of ASTs

8.1 Validation of readings

The reading validation step allows the diameters read by the SIRscan® ORION to be validated as well as the predefined tests.

It is preferable to perform this operation on a different station than the Orion in order not to block the continuous loading/unloading in the device.

It is possible to create specific filters for validating readings.

The setting of filters/Reading validations is presented in the SIRxpert® setup manual included in the start-up documents (ref. MU-2035).

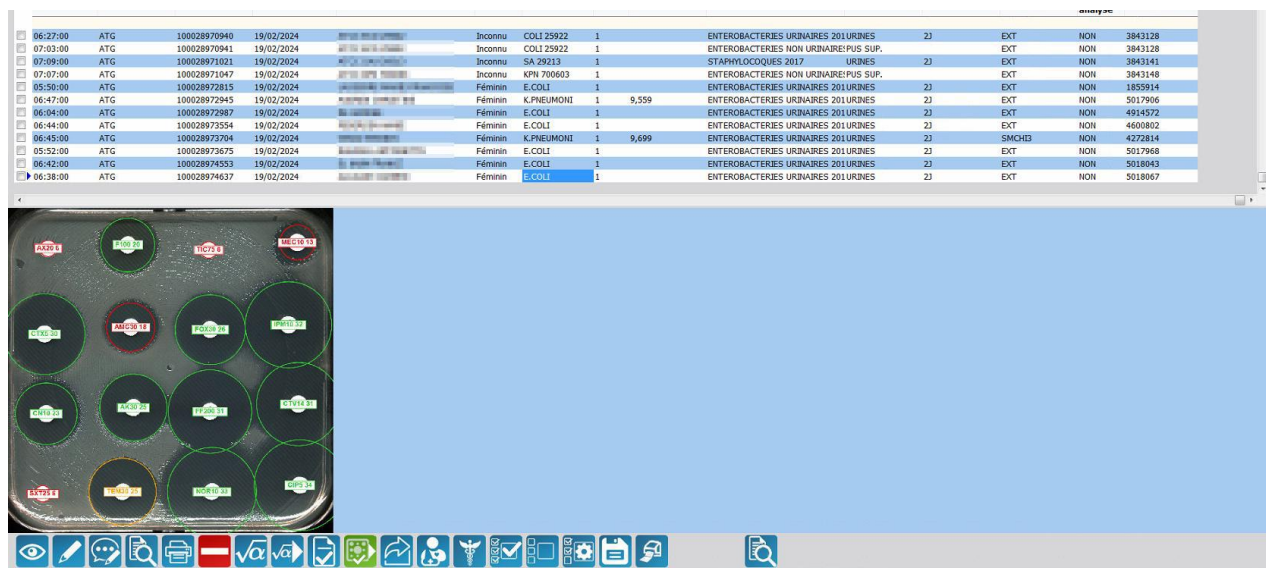
The interpretation will be done from any client workstation using read validation.

To do this, from the SIRxpert® main menu, go to the menu **AST > SIRscan > Validation of readings** .

Filters are predefined to access the various unvalidated antibiograms.

It is possible to create others to refine these validations (by service, samples, laboratory, etc.).

The setting of these filters is described in the SIRxpert® (MU-2035) setting manual.

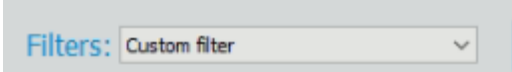
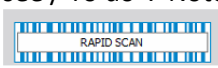
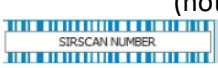


The screenshot displays the SIRxpert software interface. The top section shows a table of test results with columns for time, sample type (ATG), ID, date, patient name, sex, test name, result, and interpretation. The bottom section shows a grid of 16 antibiogram images for validation, each labeled with a sample ID and a test name. The interface includes a toolbar with various icons for navigation and analysis.

Time	Sample Type	ID	Date	Patient Name	Sex	Test Name	Result	Interpretation			
06:27:00	ATG	100028970940	19/02/2024	Inconnu	COLI 25922	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	3843128
07:03:00	ATG	100028970941	19/02/2024	Inconnu	COLI 25922	1	ENTEROBACTERIES NON URINAIRE/PUS SUP.	EXT	NON	3843128	
07:09:00	ATG	100028971021	19/02/2024	Inconnu	SA 29213	1	STAPHYLOCOQUES 20I URINES	21	EXT	NON	3843141
07:07:00	ATG	100028971047	19/02/2024	Inconnu	KPN 700603	1	ENTEROBACTERIES NON URINAIRE/PUS SUP.	EXT	NON	3843148	
05:50:00	ATG	100028972815	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	1855914
06:47:00	ATG	100028972845	19/02/2024	Féminin	K.PNEUMONI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	5017906
06:04:00	ATG	100028972887	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	4944572
06:44:00	ATG	100028973554	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	4601802
06:45:00	ATG	100028973704	19/02/2024	Féminin	K.PNEUMONI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	SMCHB	NON	4272814
05:52:00	ATG	100028973675	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	5017968
06:42:00	ATG	100028974553	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	5018043
06:38:00	ATG	100028974637	19/02/2024	Féminin	E.COLI	1	ENTEROBACTERIES URINAIRES 20I URINES	21	EXT	NON	5018067

When an analysis is selected, the images to be validated appear at the bottom. Simply click on it to enter the validation of readings for this analysis.

Several operations are possible from the top banner of the window:

-  : Selecting another filter
-  : Allows access to the filter settings
-  : Refresh the data
-  : Allows filtering of folders according to the remarks "All / Seen / To see / To do". Note that the "All" checkplate allows you to view the files without comments.
-  : The "Quick Scan" plate allows access to a file by scanning the request number (note that the search will then be performed on **the entire** database).
-  : The "Plate Number" plate allows access to a file by scanning the expected plate number generated by SIRxpert® for each antibiogram plate.

Several operations are possible from the bottom banner of the window:

-  Allows visualization of batch traceability, identification, and antibiogram images.
-  Make changes to the analysis or the request
-  Display comments related to the analysis or request
-  Show results
-  Print
-  Delete the analysis or request
-  Start the interpretation for the selected file
-  Start the interpretation for the selected folder and move on to the next one.
-  Archive the folder/Cancel archiving the folder or display the global validation (Cyto+ ATG results if both bacteriology and ATG modules are available).
-  Confirm reading and move on to the next one
-  Export the results
-  Display patient history/past/movements
-  Display documents related to the request (prescription, health insurance card, etc.)



Select all rows of the filter



Deselect all rows in the filter



Select the last selection



Print SIRscan labels



Select all rows of the filter



Deselect all rows in the filter



Re-check the last selection



Save the list in CSV, TXT, pdf, HTML, XML format.



Print SIRscan labels



SIRscan barcode visualization

Validating the readings allows us to validate several factors:

- Reading acronyms
- Diameter readings

8.1.1 Acronym reading (option active only with i2a discs)

The reading of the abbreviations is activated independently on each plate of antibiogram or additional plate.

To do this, from the SIRxpert® general menu, go to the menu for defining antibiograms or additional plates, then once in the plate settings, check the option for reading active ATB abbreviations.

For more information on setting up antibiograms, please refer to the dedicated user manual: MU-2035.

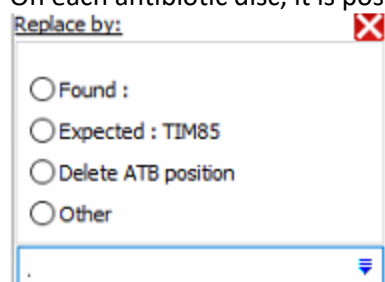
The first step is therefore to check the status of the symbols on the right side of the screen:



There are several colors that correspond to the different states of reading the antibiotic's acronym:

	ATB ok	The antibiotic has been read, it corresponds to the one that was defined in the antibiogram (Acronym read). Or perhaps the reading of the acronym for this antibiotic has been deactivated (acronym not activated).
	Antibiotic not planned	An antibiotic was detected at a location where no antibiotic was expected.
	Disc abbrev. not read	The acronym was not read or the acronym read is not part of the database.
	Different ATB	The symbol read is that of a different antibiotic than the one intended (which was not included in the plate).
	ATB shifted	The antibiotic symbol read is different from the one expected and it was intended to be in a different place in the plate.
	Detection problem	The antibiotic disc was not found: the acronym reading did not take place.
	ATB not referenced	The antibiotic's acronym is unknown or inactive.

On each antibiotic disc, it is possible to display all the options by clicking on the disc:



- Select the found disk
- Select the expected disk
- Remove the antibiotic
- Select another antibiotic: to do this, select the name of the antibiotic from the drop-down menu and then click on "Other".



Switch to theoretical positions

This option allows you to reposition the disks to the theoretical positions. Therefore, if the disks are not found, click here to reposition them correctly.



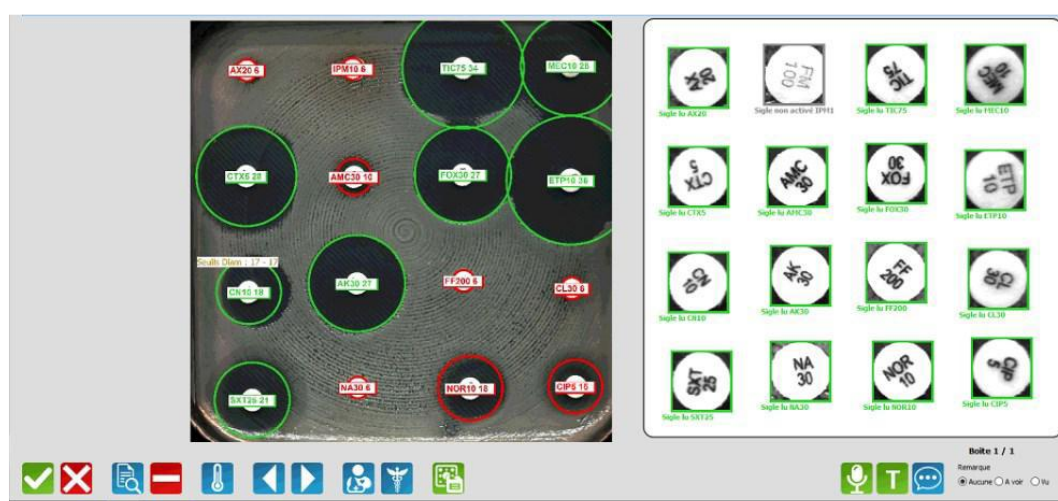
Affect the expected antibiotics on the disc
abbreviation not read

If several discs are not recognized but are in the correct position, this button allows you to put all unread symbols into expected. Note that if there are multiple plates in the panel, you must do this on all of them.

8.1.2 Diameter validation



Warning, using touchscreens can be difficult for adjusting a diameter. Using a mouse is recommended.



It is then possible to perform several operations on the image of the plate:

- Change the diameter by clicking on the antibiotic and then using the mouse to adjust the diameter between 6 and 40mm.
- To recenter a diameter, click on the antibiotic (left click on the antibiotic for 1 second to bring up the menu) and then click on recenter.
- Cancel the antibiotic reading.
- Report a mutant colony. Retains the read diameter value but assigns Resistant as the raw result
- Enter a CMI (the SIRscan® ORION is capable of taking images of plates containing CMI strips).
- Assign minimum diameter (6mm) to the antibiotic.
- Allocate the maximum diameter (40mm) to the antibiotic.
- Change the antibiotic.

From version SIRxpert® 201.1.3.0, two additional choices have been added to the option to modify an antibiotic: "**Cancel reading**" and "**Delete position ATB**".

If "**Cancel reading**" is chosen, the system cancels the measured diameter, but the antibiotic may still be visible in the final report if an expert rule applies.

If "**Delete position ATB**" is chosen, the system completely cancels the antibiotic and it will not be present in the final report (if an expert rule concerns this molecule, it will not apply).

From version **201.2.2.0** of SIRxpert®, a banner indicating that an MHR agar plate is being incubated now appears during the validation of readings when the system calculates insufficient growth.

From the bottom banner, several operations are possible on the analysis:



Save the changes (without launching the analysis)



Cancel changes



Allows you to validate the changes and launch the analysis.



This allows you to validate the changes, launch the expert review, and proceed to the next analysis.



Delete the image and the antibiogram analysis.



View the results of the antibiogram



View bacteriology results



Visualize the temperature curve



For antibiograms with multiple plates, it allows navigation through the different plates. It is also possible to click on the plate on the left side of the screen. Switching between plates automatically saves the changes made.



Display the patient's history/previous history or movements.



Display attached prescriptions/documents

There is also the option to leave an audio message  or text message  and also to leave a memo .

Finally, it is possible to select a type of comment that can then be filtered on "To See/Seen or To Do":

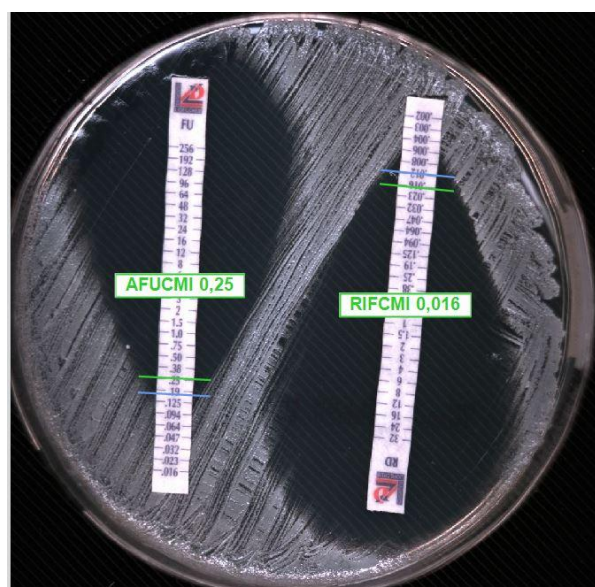


It is also possible to configure **tests** to be completed during reading validation. These will be available in the tabs on the right; simply click on "Enter test results" to display the different tests to be completed.

8.1.3 STAR System

From version **201.2.2.0** of SIRxpert®, the SIRscan® Orion can be equipped with the new reading system: **the STAR system**.

This new module significantly improves the detection of the diameters of i2a antibiotic discs and also allows the detection of the values of i2a MIC strips.



The blue line corresponds to the value read by the automate, the green line corresponds to the value returned.



Attention, this module is only available to users who have acquired the "STAR" module in addition to the SIRscan® Orion analyzer for users using i2a reagents (CMI discs and strips).

8.2 Expertise in the AST and visualization of the results

Once the readings have been validated, it is possible to launch the analysis with the  button or to

save the changes without analysis with the  button.

During the assessment, the expert system may request diameter checks; it is possible to review the images taken by the SIRscan® Orion by clicking on button .

When the analysis is complete, the SIRxpert® displays the results.



Information regarding the use of this function is available in the user manual dedicated to the SIRxpert® Master - Routine (Ref. MU-710678)

9 Flow management

The SIRxpert® Antibigram allows for the display of configurable dashboards. These dashboards are associated with sessions and allow real-time monitoring of laboratory activity.

Clicking on the numbers brings up a list containing the analyses.

10 Traceability

10.1 SIRxpert® alerts

The various alerts from SIRxpert® are located in the top banner; they are available on all workstations where SIRxpert® is installed:



By clicking on it, you can see the nature of the alerts.

The only way to acquit them is to solve the problem indicated.

10.2 Temperature management

The SIRscan® Temperature module manages temperature information sent by SIRscan® ORION controllers equipped with temperature probes.

Temperature management only occurs when the PC and the SIRscan® ORION loading program are switched on.

This program allows you to:

- Maintain traceability of the operation of the temperature regulation of the configured automate(s).
- Visualize the regulation status of each automate in a centralized manner
- Generate alerts when an automated system's regulation is faulty
- Return temperature control information in graphical form to SIRxpert®

To access the temperature management menu, from the SIRxpert® main menu, go to the menu **AST >**

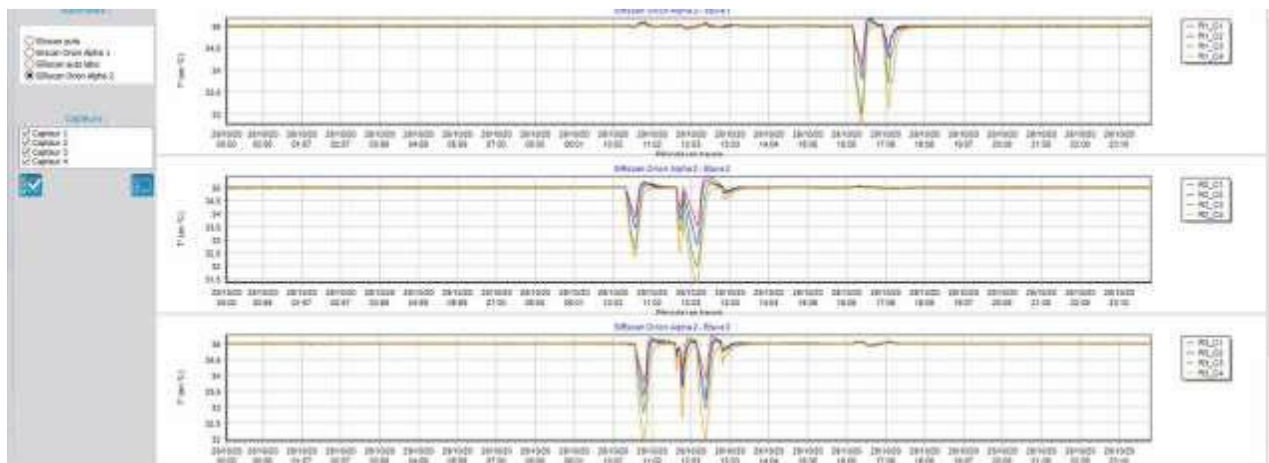
SIRscan > SIRscan Temperatures .



10.2.1 "Live" tab

This tab allows you to view the real-time graph of the temperature curves of all the configured AUTOMATES.

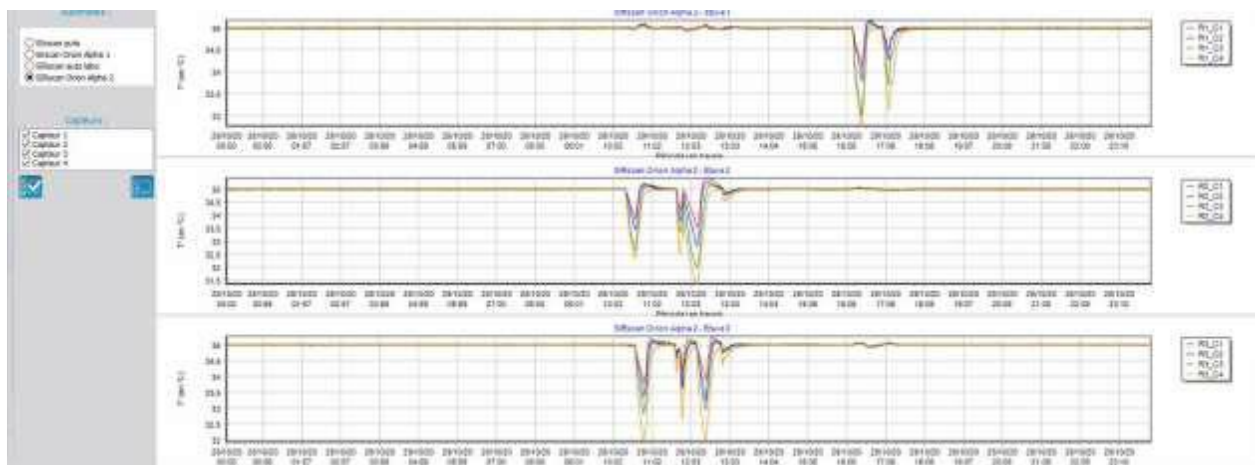
Each oven consists of four sensors; it is possible to display only the desired ovens and sensors using the checkplates on the left of the screen.



10.2.2 "Detailed Curves" tab

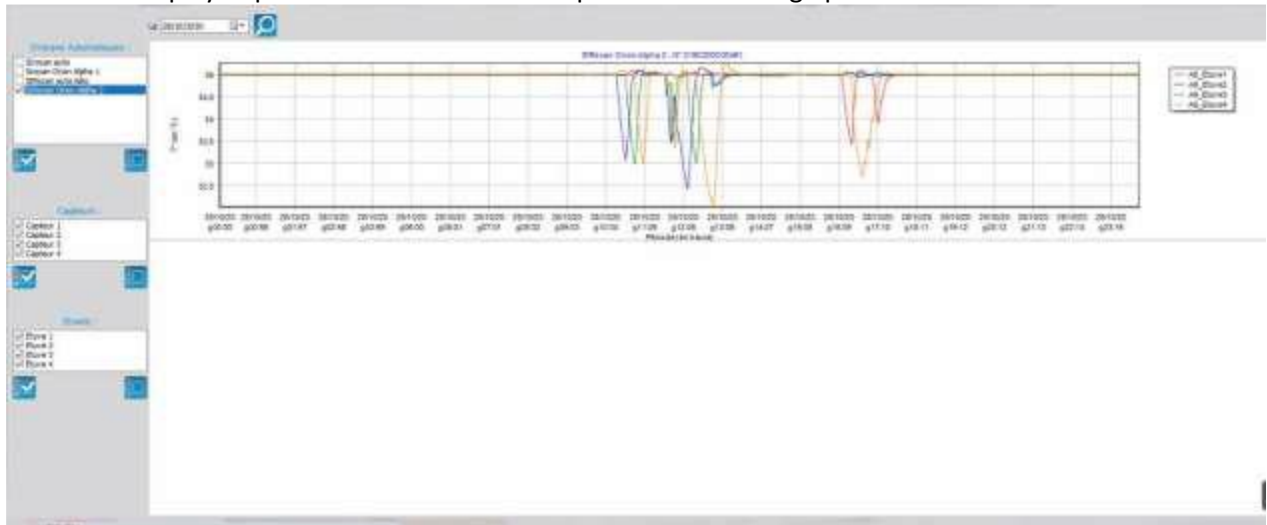
This tab allows you to see the details of each rack (one curve per rack), of each sensor, at a given date. When the "Live" checkplate is checked, the graphs display temperature curves for data received in real time.

If the "Live" checkplate is unchecked, the graphs display curves corresponding to the temperature data for the selected date.



10.2.3 "History (graph)" tab

This tab allows you to view the temperature history for a given date. Just like the "Live" module, only 4 curves are displayed per automate which correspond to the average per rack of the sensor values.



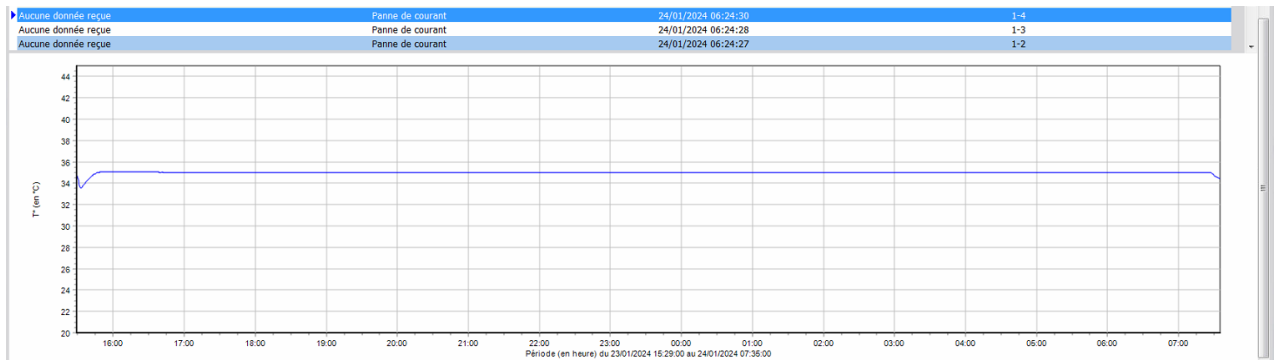
10.2.4 "History (table)" tab

This tab displays temperature tables for a specified date.

1783667	SI/Rscan Orion Alpha 2	1	1	29/10/2020	00:00:25	34,99	Vrai	Faux
1783668	SI/Rscan Orion Alpha 2	1	2	29/10/2020	00:00:25	34,99	Vrai	Faux
1783669	SI/Rscan Orion Alpha 2	1	3	29/10/2020	00:00:25	34,99	Vrai	Faux
1783670	SI/Rscan Orion Alpha 2	1	4	29/10/2020	00:00:25	35	Vrai	Faux
1783671	SI/Rscan Orion Alpha 2	2	1	29/10/2020	00:00:25	35,01	Vrai	Faux
1783672	SI/Rscan Orion Alpha 2	2	2	29/10/2020	00:00:25	35	Vrai	Faux
1783673	SI/Rscan Orion Alpha 2	2	3	29/10/2020	00:00:25	35	Vrai	Faux
1783674	SI/Rscan Orion Alpha 2	2	4	29/10/2020	00:00:25	35	Vrai	Faux
1783675	SI/Rscan Orion Alpha 2	3	1	29/10/2020	00:00:25	35,01	Vrai	Faux
1783676	SI/Rscan Orion Alpha 2	3	2	29/10/2020	00:00:25	35	Vrai	Faux
1783677	SI/Rscan Orion Alpha 2	3	3	29/10/2020	00:00:25	35	Vrai	Faux
1783678	SI/Rscan Orion Alpha 2	3	4	29/10/2020	00:00:25	35,01	Vrai	Faux
1783679	SI/Rscan Orion Alpha 2	4	1	29/10/2020	00:00:25	35	Vrai	Faux
1783680	SI/Rscan Orion Alpha 2	4	2	29/10/2020	00:00:25	34,99	Vrai	Faux
1783681	SI/Rscan Orion Alpha 2	4	3	29/10/2020	00:00:25	35	Vrai	Faux
1783682	SI/Rscan Orion Alpha 2	4	4	29/10/2020	00:00:25	35	Vrai	Faux
1783683	SI/Rscan Orion Alpha 2	1	1	29/10/2020	00:00:55	34,99	Vrai	Faux
1783684	SI/Rscan Orion Alpha 2	1	2	29/10/2020	00:00:55	35	Vrai	Faux
1783685	SI/Rscan Orion Alpha 2	1	3	29/10/2020	00:00:55	35	Vrai	Faux
1783686	SI/Rscan Orion Alpha 2	1	4	29/10/2020	00:00:55	35	Vrai	Faux
1783687	SI/Rscan Orion Alpha 2	2	1	29/10/2020	00:00:55	34,99	Vrai	Faux
1783688	SI/Rscan Orion Alpha 2	2	2	29/10/2020	00:00:55	35	Vrai	Faux
1783689	SI/Rscan Orion Alpha 2	2	3	29/10/2020	00:00:55	35	Vrai	Faux
1783690	SI/Rscan Orion Alpha 2	2	4	29/10/2020	00:00:55	35	Vrai	Faux
1783691	SI/Rscan Orion Alpha 2	3	1	29/10/2020	00:00:55	35	Vrai	Faux
1783692	SI/Rscan Orion Alpha 2	3	2	29/10/2020	00:00:55	34,99	Vrai	Faux
1783693	SI/Rscan Orion Alpha 2	3	3	29/10/2020	00:00:55	34,99	Vrai	Faux
1783694	SI/Rscan Orion Alpha 2	3	4	29/10/2020	00:00:55	35	Vrai	Faux
1783695	SI/Rscan Orion Alpha 2	4	1	29/10/2020	00:00:55	35	Vrai	Faux
1783696	SI/Rscan Orion Alpha 2	4	2	29/10/2020	00:00:55	34,99	Vrai	Faux
1783697	SI/Rscan Orion Alpha 2	4	3	29/10/2020	00:00:55	35	Vrai	Faux
1783698	SI/Rscan Orion Alpha 2	4	4	29/10/2020	00:00:55	34,99	Vrai	Faux
1783699	SI/Rscan Orion Alpha 2	1	1	29/10/2020	00:01:26	34,99	Vrai	Faux
1783700	SI/Rscan Orion Alpha 2	1	2	29/10/2020	00:01:26	35	Vrai	Faux
1783701	SI/Rscan Orion Alpha 2	1	3	29/10/2020	00:01:26	35	Vrai	Faux

10.2.5 "Analysis" tab

This tab allows you to display the temperature curve of a particular analysis (during the incubation of the plate(s)).



10.2.6 "Alerts" tab

This tab allows you to view current and unacknowledged temperature alerts. To acknowledge them, you must select the alert(s), the cause of the anomaly and click on the  button to archive the alerts.

Date/Heure	Automate	Rack	Capteur	Type
31/01/2023 14:49:28	SIRscan Orion	2	3	Trop froid
30/01/2023 03:24:35	SIRscan Orion	1	4	Trop froid
29/01/2023 08:28:22	SIRscan Orion	3	4	Trop froid
29/01/2023 06:55:19	SIRscan Orion	2	4	Trop froid
29/01/2023 06:39:46	SIRscan Orion	1	4	Trop froid
28/01/2023 14:51:22	SIRscan Orion	2	3	Trop froid
28/01/2023 14:43:21	SIRscan Orion	2	3	Trop froid
28/01/2023 14:31:20	SIRscan Orion	2	4	Trop froid
28/01/2023 14:31:19	SIRscan Orion	2	3	Trop froid
28/01/2023 14:27:57	SIRscan Orion	1	4	Trop froid
28/01/2023 08:06:44	SIRscan Orion	3	4	Trop froid
27/01/2023 15:08:45	SIRscan Orion	2	3	Trop froid
27/01/2023 14:57:39	SIRscan Orion	2	3	Trop froid
28/01/2023 07:21:16	SIRscan Orion	2	4	Trop froid
28/01/2023 07:06:49	SIRscan Orion	1	4	Trop froid
27/01/2023 08:12:04	SIRscan Orion	1	4	Trop froid

It is possible to select or deselect all alerts using the buttons .

There is also an "other (to be specified)" type alert which allows you to note the nature of the alerts in free text below the alerts.

This tab also allows you to view the alert history and the causes between two dates:

Alertes archivées: Du 21/08/2007 au 29/04/2021

Date/Heure	Automate	Type	Cause
20/04/2021 10:23:57		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:24:59		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:26:00		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:29:12		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:28:07		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:27:05		Aucune donnée reçue	Capteur endommagé
20/04/2021 10:43:55		Aucune donnée reçue	Panne de courant
20/04/2021 10:46:02		Aucune donnée reçue	Panne de courant
20/04/2021 10:44:57		Aucune donnée reçue	Panne de courant
20/04/2021 10:54:28		Aucune donnée reçue	Panne de réseau

10.2.7 Customization

The settings allow you to determine the threshold values, alerts and the emails to which the alerts are sent (only accessible to the referents).

To access it, simply click on the  button available in the top right corner of the screen.



In order to be able to send an email, the SMTP settings of the laboratory must be communicated to the application engineer of i2a.

10.3 Traceability of operations

Every modification made to the plate is tracked. It is possible to have traceability of modifications by analysis, by plate or by antibiotic.

Traceability can be displayed globally by clicking on "analysis change list".



In this window, it is possible to display all the changes made to the analysis. But it is also possible to select a specific plate.

All		ETB 1			
Antibiotic	Edited the X at X by X	Grain antibiotic	Antibiotic position	Diameter	MOC operator
CIPROFLOXACINE 30µg	edited the 13/08/2021 at 11:41:02 by Jh		8	20 => 21	
CIPROFLOXACINE 5µg	edited the 13/08/2021 at 11:41:02 by Jh		10	18 => 20	

To view the traceability of a single antibiotic, simply double-click on the line of the antibiotic in question:



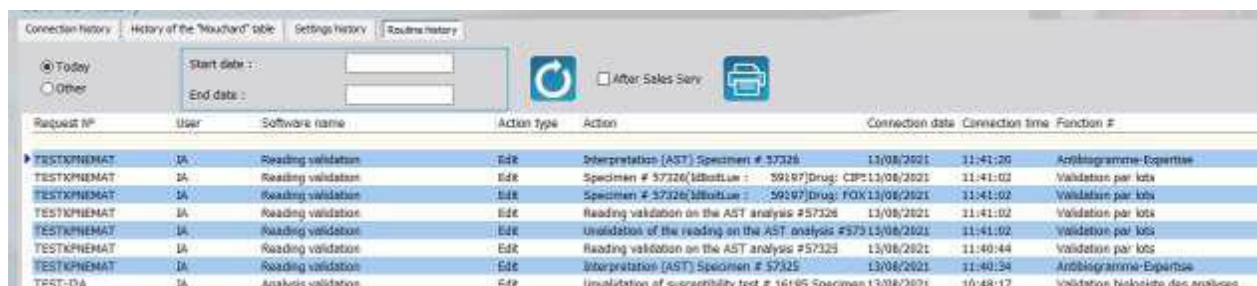
Antibiotic	Edited the X at X by Y	Origin antibiotic	Antibiotic position	Diameter	MIC operator
CIPROFLOXACINE 5mg	edited the 12/08/2021 at 13:41:02 by JA		18	18 == 20	

10.4 Traces of SIRxpert®

It is possible to access the traces of the SIRxpert® in order to determine all routine operations. To do this, from the SIRxpert® general menu, go to the menu **AST > Utilities > Traces of SIRxpert** .

There are several tabs:

- Connection logs: allows you to trace connections to the server
- History of the “mouchard” table: allows tracking of user actions
- Settings history: allows you to see the operations performed in the settings menu
- Routine history: allows you to see the operations performed in the routine menus.



Request N°	User	Software name	Action Type	Action	Connection date	Connection time	Fonction #
TESTXPHEMAT	JA	Reading validation	Edt	Interpretation (AST) Specimen # 57326	13/08/2021	11:41:20	Arbitrage-Expertise
TESTXPHEMAT	JA	Reading validation	Edt	Specimen # 57326/lotSize : 59187/Drug: CIP13/08/2021	13/08/2021	11:41:02	Validation par lots
TESTXPHEMAT	JA	Reading validation	Edt	Specimen # 57326/lotSize : 59187/Drug: FOX13/08/2021	13/08/2021	11:41:02	Validation par lots
TESTXPHEMAT	JA	Reading validation	Edt	Reading validation on the AST analysis #57326	13/08/2021	11:41:02	Validation par lots
TESTXPHEMAT	JA	Reading validation	Edt	Unvalidation of the reading on the AST analysis #57315/08/2021	13/08/2021	11:41:02	Validation par lots
TESTXPHEMAT	JA	Reading validation	Edt	Reading validation on the AST analysis #57325	13/08/2021	11:40:44	Validation par lots
TESTXPHEMAT	JA	Reading validation	Edt	Interpretation (AST) Specimen # 57315	13/08/2021	11:40:54	Arbitrage-Expertise
TEST-IDA	JA	Analysis validation	Edt	Unvalidation of susceptibility test # 16195 Specimen 13/08/2021	13/08/2021	10:48:17	Validation biologique des analyses

11 Maintenance

The various maintenance operations are summarized in the table below:

OPERATION	REF. I2A CONSUMABLES	FREQUENCY	APPROX. DURATION
Refilling humidifier cartridges	N / A	Daily	1 min
Replacing humidification cartridges	311225	Quarterly	1 min
Electrical shutdown	N / A	Weekly	1 min
Verification of SIRscan® measurements (SIRscan® Calibration ZN152)	N / A	Quarterly	2 min
SIRscan® Calibration Replacement	ZN152	Every 4 years	N / A
Cleaning the petri dish supports	N / A	1 rack per month	45 min
Renewal of petri dish supports	317693 (x44) or 317692 (x11)	Every 4 years or if impaired	20 min
Sterilization of clamps and lids	PU6856-C	Annual or if contaminated	5 min
Rack Decontamination	N / A	If contamination	15 min
SIRscan® ORION fuse replacement at input T4AH250V	167600	Exceptional	5 min
Power cord replacement	157678	Exceptional	1 min



To work on the Orion and turn it off: the power cord is the only device used as a means of disconnection.

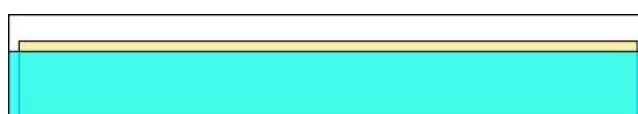
A maintenance schedule is available (Appendix 1). The calendar must be completed for each operation, noting the operator's initials.

11.1 Humidifier cartridges (daily)

This operation must be carried out daily at the end of the loading of each rack out of the automated system.

Remove the humidifying cartridge from the automate, add sterile demineralized water to the sponge to adjust the water level.

The water level should be slightly lower than the height of the sponge.



If overfilled, remove water to reach the required level and dry the edges of the humidifying cartridge.

Return the humidifying cartridge to position 1 as shown below.

A lack of water can cause the agar to dry out, making it impossible to read the antibiograms.



These cartridges need to be replaced every three months. They are available in packs of 4 cartridges from i2a under the reference **311225**.



Be careful not to overfill the humidifying cartridges to avoid causing splashes or water overflows.

In case of overflow, all traces of water must be wiped away before replacing the humidifying cartridges in the machine.

11.2 Weekly power outage

It is recommended to restart the SIRscan® ORION at least once a week.

To do this, close the SIRxpert® loading program and restart the computer.

Turn off the SIRscan® Orion by pressing the on/off button at the bottom left of the AUTOMATE.

There is no specific stopping order between the SIRscan® ORION and the computer.

11.3 SIRscan® ORION measurement verification (quarterly)

The verification of the measurements of the SIRscan® ORION is a maintenance operation to be carried out **quarterly**.

Each SIRscan® ORION comes with a standard: the SIRscan® Calibration (Article reference i2a: ZN152). It is linked to the national standards (certificate available on request).

Between uses, the SIRscan® Calibration must be kept in its original packaging, in the protective foam cover and in the plastic bag, then in the case provided with the analyzer. This will allow it to remain protected from light and avoid any friction that could scratch it and degrade the image capture.

Under these conditions, the lifespan of the SIRscan® Calibration is set at 4 years and its expiry date is identified by the symbol: .

Beyond the date mentioned, its effectiveness is no longer guaranteed. It will need to be replaced or calibrated.

The SIRscan® quality control menu is accessible from the SIRxpert® ORION main menu in **AST > SIRscan > Quality Control** .

The screen that appears gives a summary of all checks carried out to date as well as the associated results.

SIRscan standard check

Welcome IA

Identifier	User	Date	Result	Calibrate number
116	IA	13/11/2023	CORRECT	02/25
117	IA	15/02/2024	CORRECT	02/25
118	IA	15/02/2024	CORRECT	02/25
119	IA	15/02/2024	CORRECT	02/25
120	IA	15/02/2024	CORRECT	02/25
121	IA	15/02/2024	CORRECT	02/25
122	IA	15/02/2024	CORRECT	02/25
123	IA	15/02/2024	CORRECT	02/25
124	IA	15/02/2024	NOT CORRECT	02/25
125	IA	15/02/2024	CORRECT	02/25
126	IA	07/03/2024	CONFORME	01/20
127	IA	12/03/2024	CONFORME	01/20
128	IA	16/04/2024	CORRECT	01/20
129	IA	13/08/2025	CORRECT	01/20
130	IA	13/08/2025	NOT CORRECT	01/20
131	IA	13/08/2025	NOT CORRECT	01/20
132	IA	19/08/2025	CORRECT	01/20
133	IA	27/01/2026	CORRECT	01/20
134	IA	28/01/2026	CORRECT	01/20

Click on the  button to perform a new check.
The following screen appears.



Place the platform and the SIRscan® Calibration with the diameters to be measured on top (facing the camera), then click on the .

Once the reading is complete, two possibilities can occur:

- Result as expected: enter the serial number of the SIRscan® Calibration in the corresponding plate.

Please enter the serial number of the standard for the quality control.

01/20



- Non-compliant result: enter the serial number of the SIRscan® Calibration in the corresponding plate.

In this case, it is necessary to call i2a's customer service to understand the cause of the problem.

Calibration not conform.



Calibration not conform.

Please enter the serial number of the standard for the quality control.

01/20



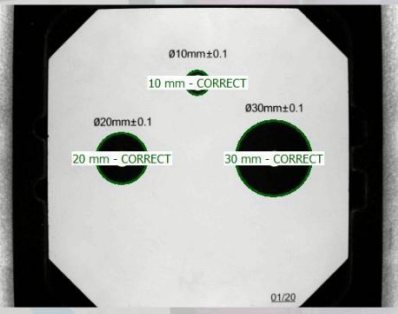
Once the information has been entered, click on  to validate, otherwise click on  to cancel.

The drawer opens, remove the SIRscan® Calibration and the tray.

You can view the calibration results by clicking on the  button on the right side of the screen:

SIRscan standard check
Welcome IA

Identifier	User	Date	Result	Calibrate number
105	IA	07/04/2022	CORRECT	07/18
106	IA	08/04/2022	CORRECT	02/14
107	IA	08/04/2022	CORRECT	02/14
108	IA	08/04/2022	NOT CORRECT	02/14
109	IA	08/04/2022	CORRECT	02/24
110	IA	08/04/2022	CORRECT	02/24
111	IA	08/04/2022	CORRECT	02/22
112	IA	08/04/2022	CORRECT	02/22
113	IA	29/09/2022	CONFORME	02/14
114	IA	12/10/2023	CONFORME	02/14
115	IA	12/10/2023	CONFORME	02/25
116	IA	13/11/2023	CORRECT	02/25
117	IA	15/02/2024	CORRECT	02/25
118	IA	15/02/2024	CORRECT	02/25
119	IA	15/02/2024	CORRECT	02/25
120	IA	15/02/2024	CORRECT	02/25
121	IA	15/02/2024	CORRECT	02/25
122	IA	15/02/2024	CORRECT	02/25
123	IA	15/02/2024	CORRECT	02/25
124	IA	15/02/2024	NOT CORRECT	02/25
125	IA	15/02/2024	CORRECT	02/25
126	IA	07/03/2024	CONFORME	01/20
127	IA	12/03/2024	CONFORME	01/20
128	IA	16/04/2024	CORRECT	01/20
129	IA	13/08/2025	CORRECT	01/20
130	IA	13/08/2025	NOT CORRECT	01/20
131	IA	13/08/2025	NOT CORRECT	01/20
132	IA	19/08/2025	CORRECT	01/20
133	IA	27/01/2026	CORRECT	01/20
134	IA	28/01/2026	CORRECT	01/20



To print a calibration result, click on the  button.



In the case of a non-compliant **result**, check the orientation of the SIRscan® Calibration and perform a new acquisition. If it remains non-compliant, contact i2a's customer service.

11.4 Cleaning of petri dish racks (every 4 months or 1 rack per month)

The petri dish holders should be cleaned every 4 months (or 1 rack per month) outside of the machine. The rubber mats are removable and should be cleaned with soapy water and then rinsed with clean water. Once the mats are dry, put them back on the supports.



Petri dish mats have a keying feature (rubber studs) on the underside to allow the mats to be put back in place on the trays.

11.5 Replacement of petri dish supports (every 4 years or if damaged)

Petri dish supports deteriorate over time.

In order to maintain good image quality during readings, it is necessary to renew the petri dish supports at least every 4 years and earlier if the mats are damaged (bleaching, yellowing, persistent stains) (references: 317693 (x44) or 317692 (x11)).

11.6 Sterilization of the clamp lid (annually or in case of contamination)

Before any intervention on the SIRscan®, do not forget to switch off the automation system electrically.

Open the door of the SIRscan® ORION.

The clamps are located above the reading table.

Remove the 2 pairs of clips by "unclipping" them. To do this, apply slight pressure to the ends of the pliers.



Soak a cotton ball with 90% ethanol-type alcohol and apply the solution to the stems and rubber tips.

When the clips are cleaned, replace them in their slots.

11.7 Rack decontamination (exceptional)

In the event of contamination of a rack by a plate, it is possible to remove the entire structure in order to decontaminate it.

Decontamination is carried out using a disinfectant solution such as Anios®.

Once the rack is dry, put it back in the oven.

11.8 Fuse replacement (exceptional)

The Orion is protected by 2 T4AH250V reference input fuses.

Next to the switch is a fuse plate (2 fuses T4AH250V).



To access the fuses, you need to use a small flathead screwdriver and position it as shown below:



11.9 Power cord replacement (exceptional)

Turn off the machine.

Unplug the power cord and replace it with a certified cable with the same specifications as the supplier's reference cord 157678.

12 Troubleshooting



IMPORTANT: In case of a mechanical problem on the SIRscan® Orion and if your SIRxpert® software version is lower than version **101.5.11.8**, it is imperative to turn off and restart the acquisition service and the loading program of the SIRscan® Orion. For this, refer to point **11.1** of this manual.

12.1 Restarting the acquisition service

To turn off the acquisition service, from the SIRxpert® general menu, click on "Connection to acquisition service" located in **AST > Sirscan > Connection to acquisition service** . Next, stop the service by clicking on the  button and then wait for it to turn red like this: .

When the acquisition service is turned off, the SIRscan® Orion loading program appears in grey.

Then, still within the SIRxpert® software, restart the acquisition service. To do this, click on "Acquisition server connection" located in **AST > Sirscan > Acquisition server connection** .

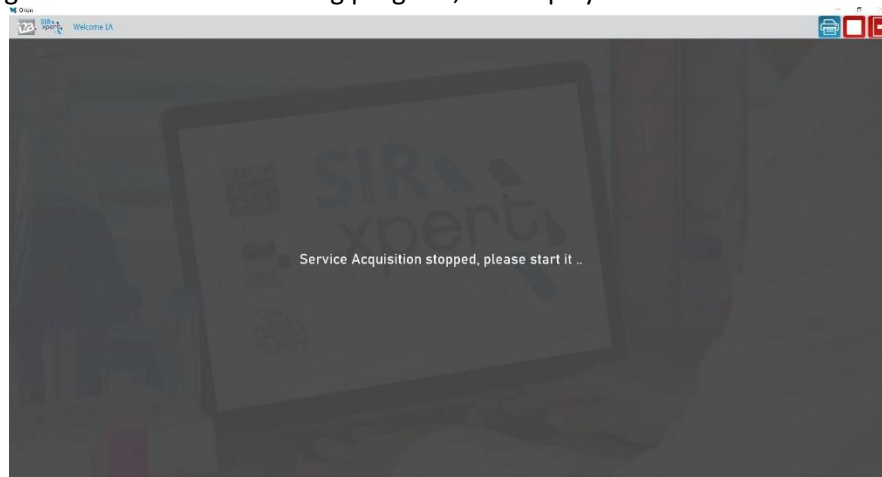
Then restart the service by clicking on the button  and wait for it to turn green like this: .

The SIRscan® Orion loading program then reappears normally.

The acquisition service starts automatically when the PC starts up. But it may be necessary to turn it on in case the service is shut down.

12.2 The loading screen is grey

If, when opening the SIRscan® Orion loading program, the display looks like this:



This means that the acquisition service has not been launched. To do this, from the SIRxpert® general menu, click on "Connection to the acquisition service" located in **AST > Sirscan >**

Connection to the acquisition service



. Then restart the service by clicking on the button



and wait for it to turn green like this:  (see point 11.1 of this manual).

12.3 The reading is not taking place

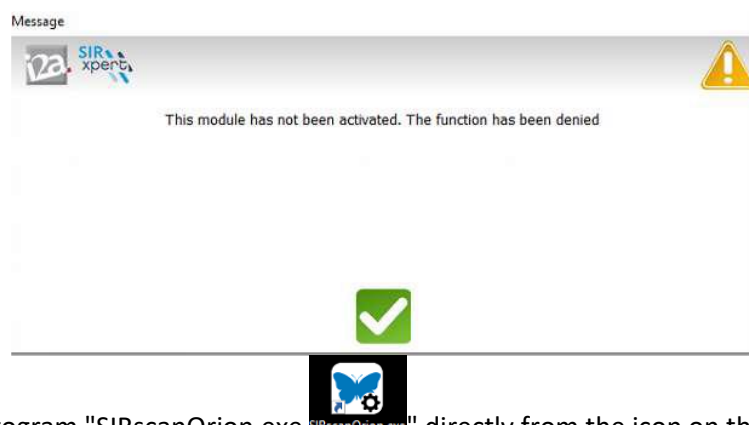
Verify that the acquisition service is running correctly. If this is not the case, refer to point 11.1 of this manual.

12.4 Barcodes not found on several plates

Check the connection with the LIS on the SIRxpert® server.

12.5 Unable to access the SIRscan® Orion loading program

When starting the SIRscan® Orion loading program, the main menu does not open and displays the message "the module is not activated. "Function refused":



Launch the loader program "SIRscanOrion.exe" directly from the icon on the Windows desktop.

12.6 SIRscan® Calibration not compliant

If the image is too dark or too bright, from the SIRxpert® main menu, click on "Quality Control" located in

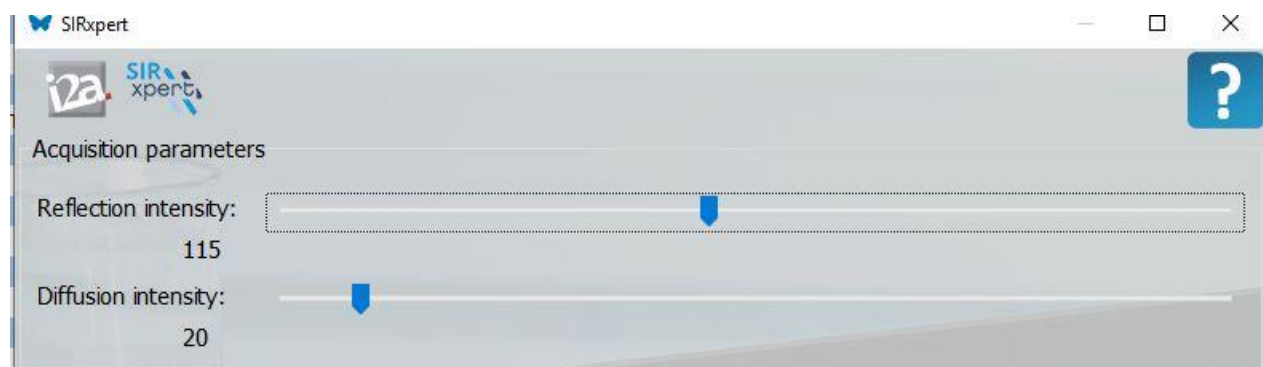
AST > Sirscan > Quality Control



and then click on the button



to access the lighting settings.



Increase the diffusion intensity if the image is not bright enough.
Reduce the diffusion intensity if the image is too bright.

12.7 The automate fell

In the event that the automate is dropped, routine use must be suspended until it has been put back into service by i2a (Please note: these repairs are not covered by the maintenance contract).

12.8 White squares appear on the image

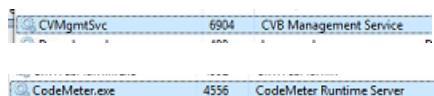
If a white square appears on the image during read confirmation, as shown below:



Verify that the following PC services are running correctly:

- CVB Management Service (or CVMgmtSvc.exe)
- CodeMeter Runtime Server (or CodeMeter.exe)

To do this, right-click in the taskbar, select "Task Manager", then go to the "Services" tab. Search for **CVMgmtSvc** and **CodeMeter** and verify that they are running. If this is not the case, right-click and select "started".



Once these two services have been started, restart the Acquisition service by following the procedure described in point 11.1 of this manual.

If the problem persists, contact i2a.

12.9 Error reading a plate (SIRxpert® version < 101.5.11.8)

If your SIRxpert® software version is lower than version 101.5.11.8 and a mechanical problem is observed, the SIRscan® Orion stops and opens its reading drawer with or without antibiogram agar on the tray during automatic reading, you must first restart the acquisition service **before** acknowledging message :



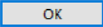
If the message is acknowledged *before* the acquisition service restarts, this may cause step losses when resetting the SIRscan® Orion.

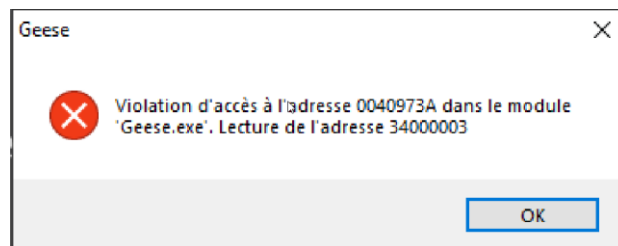
To turn off the acquisition service, from the SIRxpert® general menu, click on "Connection to acquisition service" located in **AST > Sirscan > Connection to acquisition service** . Next, stop the service by clicking on the  button and then wait for it to turn red like this: .

When the acquisition service is turned off, the SIRscan® Orion loading program appears in grey.

Then remove the tray with/without the antibiogram plate, and acknowledge the message "please remove the tray" by clicking on button : "Please remove the tray."

Then confirm the following message "Acquisition service not started" using button .

Finally, acknowledge the access violation error message by clicking on .



Finally, return to the SIRxpert® software and restart the acquisition service. To do this, click on

"Acquisition server connection" located in **AST > Sirscan > Acquisition server connection** .

Next, restart the service by clicking on button  and then wait for it to turn green like this: .

The SIRscan® Orion loading program then reappears normally (see point 11.1 of this manual).

12.10 Error reading a plate (SIRxpert® version >= 101.5.11.8)

If your SIRxpert® software version is equal to or greater than version 101.5.11.8 and a mechanical problem is observed, the ongoing process will stop and the SIRscan® Orion will stop. An error message then appears: « We have encountered a problem. Open the main door of the automate. Remove the box and tray, if applicable.»

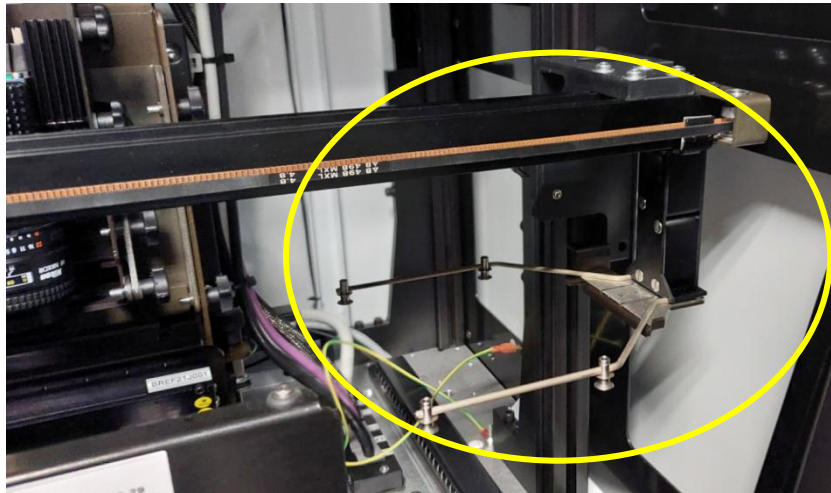
Check in the machine that there is no plate and remove it if necessary.

Also check that there is no plate in the clamp and that the clamp is not located in the middle of the arm like this:



If that is the case, then you must:

1. Turn off the automate using the on/off button
2. Remove the tongs tray, as well as the plate and its lid if necessary.
3. Reposition the clamp at the right end of the arm:



4. Turn the automate back on using the on/off button
5. Confirm the error message using button .



If the gripper is not repositioned to the right of the arm, the initialization of the automate is then impossible and a new error message will appear.

From version 101.5.11.8 onwards, it is no longer necessary to restart the acquisition service after a read error. Indeed, when the error is acknowledged, the initialization of the AUTOMATE will happen automatically before the next requested movement (read, load or unload).

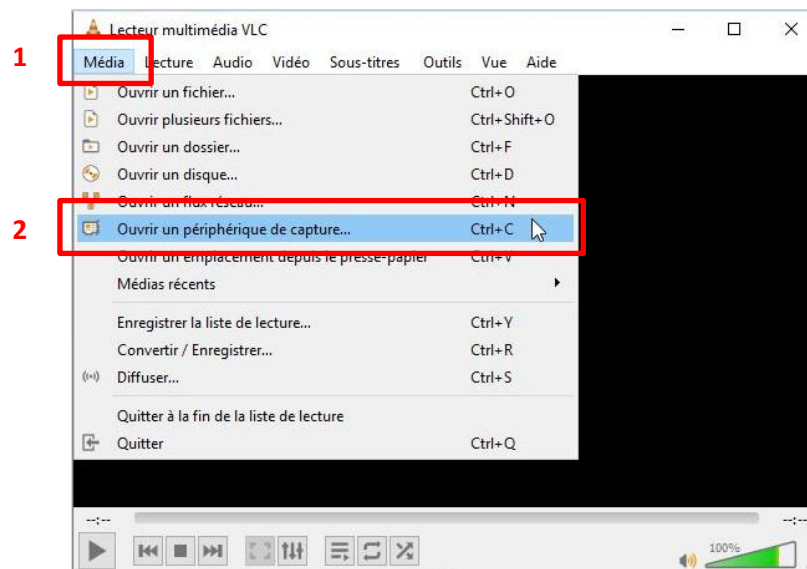
Warning: If the machine detects the presence of a tray during initialization, the message "Please remove the tray" will appear.

12.11 Webcam setup

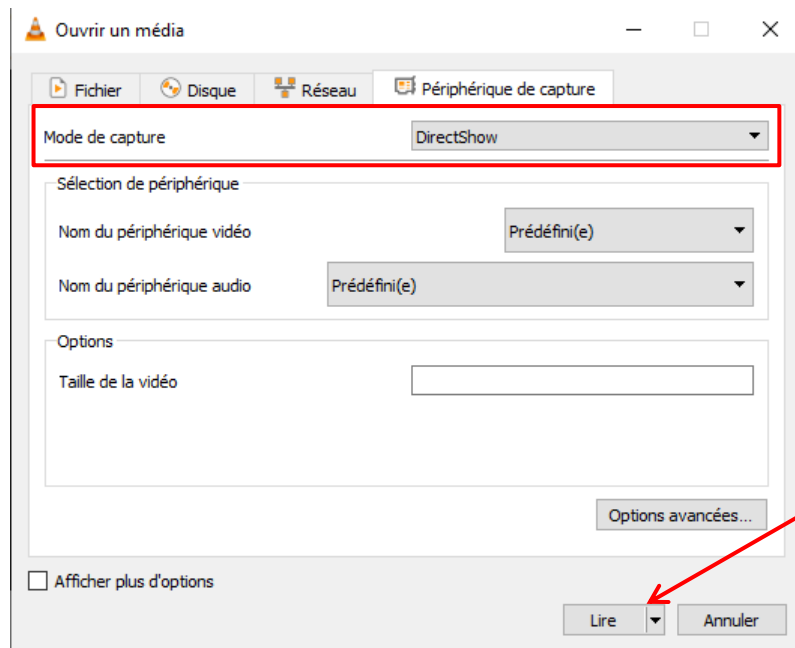
In the event of a mechanical problem, the i2a customer service representative may need to view the movements of the automated system remotely. In this case, a webcam is made available to the laboratory so that any problems can be perceived in real time.

To set up the webcam, you simply need to plug it into an available USB port on the SIRscan® Orion computer.

Next, open the "VLC media player" program by clicking on the icon  located on the desktop. When it is open, click on "Media" (1) then choose "Open a capture device" (2): Only available in French: (Media/Ouvrir un périphérique de capture) or CTRL+C

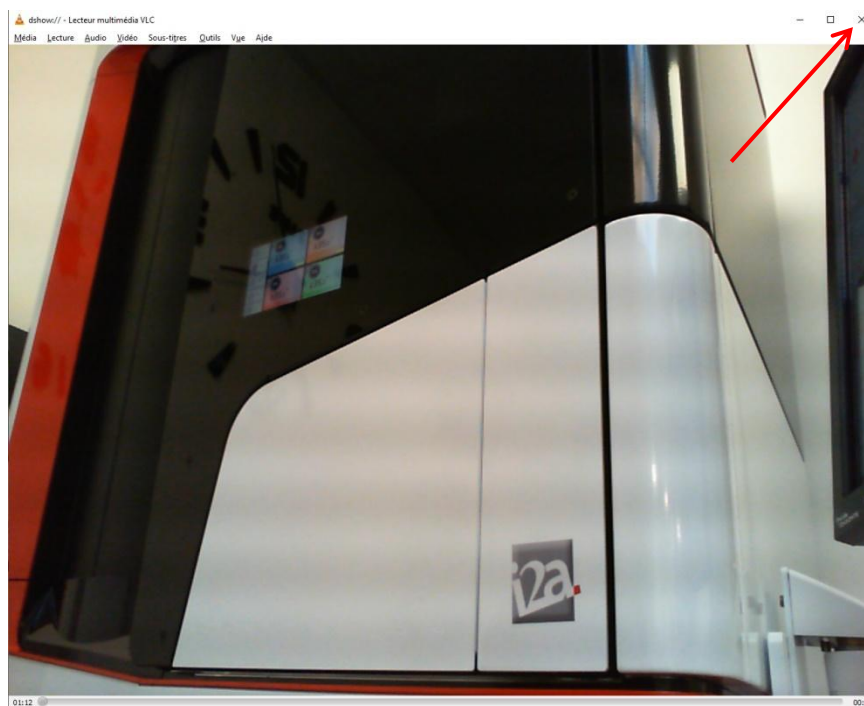


In the "Capture Device" tab, select "DirectShow" as the capture mode and then click "Play" ("Lire")



The video then begins in real time.

Once the recording is complete, to stop the video, simply close the "VLC media player" program by clicking on the cross in the top right corner of the screen:



13 Decontamination procedure – disposal



All biological samples should be considered potentially hazardous.

Before shipping the equipment, it must have been cleaned and decontaminated according to the procedure described below.

The EN-1331 decontamination declaration must be completed and attached to the equipment.

Without this document, duly completed and signed, the device will not be accepted by our After-Sales Service.

13.1 Materials needed

- Disposable nitrile gloves
- Disposable blouse or cotton blouse
- Protective glasses

13.2 Prevention measures

Protective gloves must be worn whenever a laboratory instrument that has been potentially contaminated by blood or other laboratory samples is used. Wearing a lab coat is mandatory in medical biology laboratories.

Hands must be washed immediately after removing gloves and before leaving the laboratory. In case of contamination with blood, the skin surface must be washed thoroughly immediately. Personnel with skin conditions such as exudative lesions or weeping eczema should refrain from handling contaminated equipment.

13.3 Instrument decontamination

The instrument must be decontaminated before removing the machine or any part of the machine from the laboratory; potentially contaminated parts must be decontaminated.

Decontamination procedure:

- Put on nitrile gloves and a lab coat

	Anios-type surface cleaner	Soaking	Destruction	Instructions
External part	X			Decontamination is carried out with the power off using the SURFA'SAFE type disinfectant solution from ANIOS®. Do not spray directly onto the parts.
Plate supports		X		See section 10.4
Lid grip clamp	X			See section 10.6
Charger – Racks	X			See section 10.7
Filters			X	
Mechanical sub-assembly	X			Decontamination is carried out with the power off using the SURFA'SAFE type disinfectant solution from ANIOS®. Do not spray directly onto the parts.

13.4 Precautions

All contaminated disposable materials must be disposed of in the biohazard waste container available at the laboratory.

Parts of the instrument can be contaminated by bacteria present on contaminated gloves. Therefore, only certain parts of the instrument should be touched and gloves should always be removed or decontaminated before touching uncontaminated parts of the device.

END OF DOCUMENT

OPERATION	Date :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Frequency :															
Refilling humidifier cartridges	Daily															
Electrical shutdown	Weekly															
Cleaning the petri dish supports	1 rack per month															
Verification of SIRscan® measurements (SIRscan® Calibration)	Quarterly															
Replacing humidification cartridges	Quarterly															
Sterilization of clamps and lids	Annual															
SIRscan® Calibration Replacement	Every 4 years															
Renewal of petri dish supports	Every 4 years															
Rack Decontamination	If contamination															
SIRscan® ORION fuse replacement at input T4AH250V	Exceptional															
Power cord replacement	Exceptional															

SIRscan® Orion Maintenance Schedule (Serial Number:

)

YEAR:

MONTH:

OPERATION	Date :	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Frequency :																
Refilling humidifier cartridges	Daily																
Electrical shutdown	Weekly																
Cleaning the petri dish supports	1 rack per month																
Verification of SIRscan® measurements (SIRscan® Calibration)	Quarterly																
Replacing humidification cartridges	Quarterly																
Sterilization of clamps and lids	Annual																
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