



# Bionova® MiniBio Auto-reader

for Rapid, Super Rapid and Ultra Rapid  
Biological Indicators

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**WARNING:** This product contains dry natural rubber.





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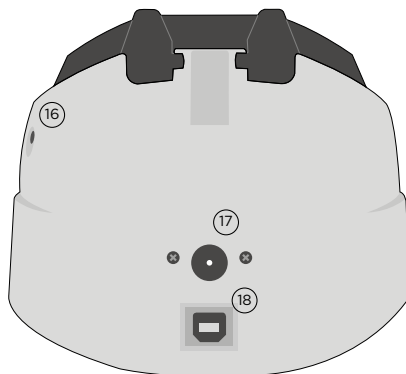
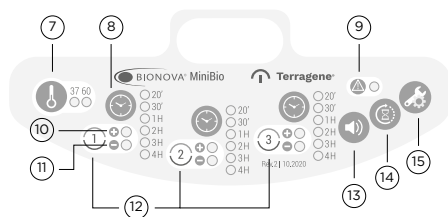
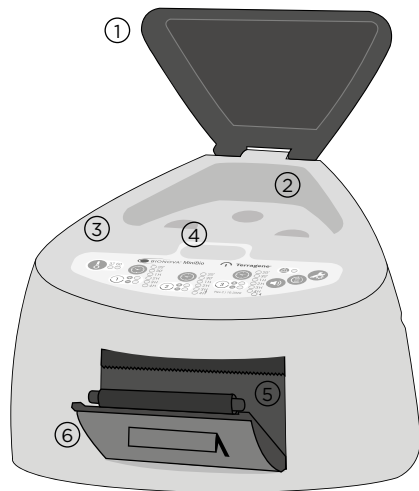
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## ■ Composition



## Product description

The Bionova® MiniBio Auto-reader was designed for the incubation and automatic readout of Terragene® Bionova® Rapid, Super Rapid and Ultra Rapid Self-Contained Biological Indicators (SCBIs) for sterilization process control applications.

The Bionova® MiniBio Auto-reader allows two different incubation temperatures, 37 °C or 60 °C. Microorganisms contained within the SCBIs vary depending on the sterilization process for which they have been designed, therefore, incubation temperatures and incubation times differ depending on the SCBI being used. The Bionova® MiniBio Auto-reader allows independent time settings selection for each one of the three incubation positions.

The SCBIs for ethylene oxide (EO) should be incubated at 37 °C, while those used for the monitoring of the rest of the sterilization processes should be incubated at 60 °C.

**Note:** Simultaneous incubation of SCBIs for monitoring ethylene oxide (EO) processes along with SCBIs for monitoring other sterilization processes is not possible.

The Bionova® MiniBio Auto-reader detects positive and negative SCBIs easily and quickly. A positive result can also be shown by a change in the culture medium color when extended incubations are carried out. Read the Instructions for Use of each SCBI for more information. Due to the high sensitivity of the fluorescence results, the option to perform or not an extended incubation depends on the internal protocols of each laboratory or hospital.

The Bionova® MiniBio Auto-reader also provides a printed ticket each time an incubation is completed for recording the results allowing easy result management for documentation compliance and record keeping.

## Indications for use

The Terragene® Bionova® MiniBio Auto-reader Incubators incubate at 60 °C and 37 °C and read the Terragene® Bionova® SCBI for fluorescent results at the times prescribed in this User Manual.



## Features

- ① Protective cover
- ② Incubation area
- ③ Control panel
- ④ Ampoule crusher
- ⑤ Cavity for paper
- ⑥ Thermal printer
- ⑦ Incubation temperature selection button | temperature & stability indicator light
- ⑧ Incubation time selection buttons | time left
- ⑨ Attention indicator light
- ⑩ Positive indicator light (red)
- ⑪ Negative indicator light (green)
- ⑫ Incubation position
- ⑬ Alarm cancellation button
- ⑭ Reprint of results
- ⑮ Configuration | Paper traction button
- ⑯ Hole for external temperature control
- ⑰ Socket for power supply plug (12 Volts DC)
- ⑱ USB port

## ■ Safety information

### Symbols

You may see one or more of these symbols on the packaging or labeling of this product:

-  **Humidity limitation.** Indicates the range of humidity to which the medical device can be safely exposed.
-  **Temperature limit.** Indicates the temperature limits



to which the medical device can be safely exposed.  
**Caution.** Indicates that caution is necessary when operating the device or control close to where the symbol is placed, or that the current situation needs operator awareness or operator action in order to avoid undesirable consequences.



**Caution, hot surface.** To indicate product can be hot and should not be touched without taking care.



**CE mark.** Indicates the product conforms to all legal requirements to be sold within the European Union/European Economic Area (EU/EEA).



**Fragile, handle with care.** Indicates a medical device that can be broken or damaged if not handled carefully.



**Direct current.** To indicate on the rating plate that the equipment is suitable for direct current only to identify relevant terminals.



**For indoor use only.** Indicates medical device be used indoors.



**Keep away from sunlight.** Indicates a medical device that needs protection from light sources.



**Batch code.** Indicates the manufacturer's batch code so that the batch or lot can be identified.



**Manufacturer.** Indicates the medical device manufacturer.



**Date of manufacture.** Indicates the date when the medical device was manufactured.



**Recycle electronic equipment.** DO NOT throw this unit into a municipal trash bin when this unit has reached the end of its lifetime. Please recycle.



**Keep dry.** Indicates a medical device that needs to be protected from moisture.



**This way up.** To indicate correct upright position of the transport package.



**Do not stack.** Indicates product should not be stacked or top loaded.



**Recyclable.** Indicates that the marked item or its material is part of a recovery or recycling process.



**Class II equipment.** To identify equipment meeting the safety requirements for Class II equipment according to IEC 61140.



**Contains or presence of natural rubber latex.** Indicates the presence of natural rubber or dry natural rubber latex as a material of construction within the medical or the packaging of a medical device.



**Polarity of d.c. power connector.** To identify the positive and negative connections (the polarity) of a d.c. power supply, or the positive and negative connections on a piece of equipment to which a d.c. power supply may be connected.

**To avoid risks and/or damaging the device:**

- Use indoors only.
- Do not place the auto-reader in a room exposed to direct sunlight or to high luminous intensity lamps.
- Do not place the auto-reader near devices that emit strong electromagnetic fields.
- Do not use the auto-reader on sloping surfaces or on surfaces that may be knocked, that may vibrate, be exposed to high temperatures, or high relative humidity.
- Disconnect the power cord before cleaning.
- Do not use abrasive, corrosive cleaners or disinfectants.
- Do not immerse into any liquid. Do not pour liquid into it.
- Make sure the auto-reader is connected to an appropriate electrical mains outlet socket.
- Use the included power supply (AC power adapter), power supply's AC plug, power supply cords, and USB cable only. Check that all the items included are in good condition every day. If any of them is damaged, discontinue their use. The use of cables, adapters, cords, and/or power supplies different from the ones included may cause fires, electrical shocks, or even physical injuries.
- Do not plug any devices into the auto-reader's USB port other than a personal computer (PC). The PC must be compliant with IEC 60950-1, IEC 62368-1 or comparable, with safety extra-low voltages on its USB ports. Ask a qualified technician to check that the device is compatible. Attaching any other device to the USB port may damage the auto-reader and may not be safe for the user.
- Do not attempt to repair the auto-reader yourself. This could lead to major and irreversible damages to the device. If the auto-reader malfunctions, contact your local distributor for further assistance.

**To reduce the risk of using incompletely sterilized loads:**

- Please read, understand, and follow the Instructions for Use of the SCBI before incubating it.
- Do not remove the SCBI before the auto-reader shows the final readout result. Check a result ticket is printed.
- Check that the spore carrier has been wetted completely by the culture medium.

**To avoid the risk of injury by glass fragments produced when crushing the glass ampoule inside the SCBI tube:**

- Cool the SCBI during the indicated time before crushing the ampoule.

- Do not handle the SCBI excessively since this might cause the glass ampoule to explode.
- Wear safety gloves and goggles when removing the SCBI from the sterilizer, pressing the SCBI's cap, and crushing the SCBI's ampoule.
- Check a result ticket is printed.
- Do not use your finger to crush the SCBI. Use the ampoule crusher instead.

**To avoid a potentially hazardous situation:**

- Avoid contact with the hot metal block inside each incubation position.
- Do not insert your fingers, or any other element, into the incubation positions.
- Place only compatible SCBIs inside the incubation positions.

**To avoid SCBIs from absorbing fluorescent particles:**

- Avoid direct contact between the SCBIs and chemical indicators or tapes before the SCBI incubation.
- Avoid excessive SCBI handling that may lead to fingerprints or glove talc imprinted over the indicator.

**Note:** Do not use this product other than in the manner specified by Terragene S.A., otherwise the protection provided by the product might be affected.

**Note:** Only Terragene S.A. authorized personnel may access or service the internal components of the auto-reader. Parts or components inside the auto-reader should not be handled by the user.

## Operating conditions

**Power supply specifications**

Input parameters	Operating conditions	Units
Voltage range	(100-240)	AC Volts
Frequency	50-60	Hertz
Current	1	Ampere
Output parameters	Values	Units
Voltage	12	DC Volts
Current	3	Amperes

Terragene S.A. recommends using Uninterruptible Power Supply (UPS) instead of voltage stabilizers since they fulfill two functions: To stabilize and maintain the energy during a power outage.

## Environmental operating conditions

Environmental conditions	Operating conditions	Units
Altitude	3500 (max.)	Meters
Operation temperature	10-30	Celsius
Relative Humidity	30-80	%
Installation/Over-voltage	Category II	-
Pollution Degree	2	-
Storage temperature	5-40	Celsius
Voltage	12	DC Volts

## Device safety compliance

The Bionova® MiniBio Auto-reader complies with the following standards and directives:

<b>Electrical Safety</b>	IEC 61010-1 IEC 61010-2-010 Low Voltage Directive 2014/35/EU
<b>Electromagnetic Compatibility (EMC)</b>	EN 61326-1 EMC Directive 2014/30/EU
<b>European Commission</b>	RoHS Directive 2011/65/EU WEEE Directive 2012/19/EU

The Bionova® MiniBio Auto-reader does not represent photobiological risk and does not generate dangerous optical radiation in any of its normal operation conditions as per the requirements of IEC 62471 standard. Designed under Quality Management System standards ISO 13485:2016/ EN ISO 13485:2016.

**Note:** The auto-reader has been evaluated for conformity for use in business environments. There may be concerns about radio interference if used in home environments. This applies exclusively to the Korean market due to KC certification requirements.

## ■ Product compatibility and incubation programs

### Available incubation programs

The following incubation programs are available for your auto-reader:

Temperature selection	Time selection	Incubation program
60 °C	20 minutes 30 minutes 1 hour 2 hours 3 hours	20 minutes at 60 °C 30 minutes at 60 °C 1 hour at 60 °C 2 hours at 60 °C 3 hours at 60 °C
37 °C	4 hours	4 hours at 37 °C

To select the appropriate incubation program for the SCBI you are planning to use, follow each SCBI's Instructions for Use.

**Note:** Select the appropriate incubation program before the incubation of any SCBI.

**Note:** All SCBIs are single use. Do not use or incubate the same SCBI more than once.

## Compatible SCBIs

We develop new SCBIs for extending the features of our auto-readers regularly. Please check out your auto-reader's compatibility matrix to find out more about all compatible SCBIs for your device.

## ■ Instructions for use

**Note:** Remember to set the auto-reader your local date and time before starting incubations.

### Start-up

**1** Place the auto-reader on a firm surface, free from vibrations, away from direct sunlight, hot or cold air flows, chemical and corrosive or flammable substances. Do not place the auto-reader in a way that would make it difficult to remove the power supply's AC plug from mains. Leave a space of at least 10 cm from the auto-reader to the closest wall. Do not move the auto-reader periodically or while it is being used. Connect the auto-reader to a secure and stable electrical mains outlet socket.

**Note:** Do not wet or heat the auto-reader. If liquid is spilled on the auto-reader, disconnect it and clean it. For more information, please refer to the following section: *Cleaning and maintenance*.

**2** Switch on the auto-reader by connecting the power supply's AC plug to mains and then connect the plug at the other end of power supply to the rear of the auto-reader.

**Note:** Before switching it on, check that all incubation positions are empty.

**Note:** If the attention indicator light starts blinking after switching on the auto-reader, check that the printer's door is tightly closed and that the printer has paper. For more information, please refer to the following section: *Paper roll replacement*.

**3** Set the auto-reader internal clock to match your local time. For more information, please refer to the following section: *Time setting mode*.

**Note:** All devices are manufactured with the following settings:

- *Time zone:* UTC +0:00
- *Printing language:* English

You can change the time zone or the printing language. For more information, please refer to the following section:

*Configuration mode*.

**4** Press and hold down the temperature selection button for 3 seconds to enter the temperature selection mode. Press again to select the desired temperature. After 4 seconds the temperature modification will be accepted automatically.

**Note:** Changing the incubation temperature can only be done as long as there is not an ongoing reading.

**5** Select the appropriate incubation time for the SCBI you are planning to use, according to the SCBI's Instructions for Use. Press the incubation time selection button of the incubation position multiple times until you select the desired incubation time.

To know more about the temperature and time combinations (incubation programs) available for your auto-reader, please refer to the following section: *Product compatibility and incubation programs*.

**6** Wait until the temperature & stability indicator light stops blinking for the auto-reader to reach a steady working temperature.

**Note:** Do not place an SCBI in an incubation position before the incubation temperature is stable.

**7** Once the temperature & stability indicator light remains stable, a one-time automated test to check each position internal status will be carried out (auto-test).

Once the test is complete, the negative indicator light will turn on to indicate that the position can be used to perform readings. Otherwise, the positive indicator light will turn on to indicate that an error has occurred.

When the auto-reader detects an error in a position, the position will be disabled to guarantee the reliability of the results and no further readings will be possible.

To indicate that a position has been disabled, the positive indicator light will blink continuously.

**Note:** To ensure the automated test works properly, keep the protective cover closed when the automated test is running.

**8** Once the automated test has been completed, the readings can be initiated on any incubation position if the position has not been disabled. Place an SCBI in an incubation position. The reading process will start automatically once the SCBI has been put in. The auto-reader will emit an audible notification indicating that a reading has successfully began, at the same time the negative and positive indicator lights will start blinking. Close the protective cover and wait until a readout result has been carried out.

**Note:** Before placing an SCBI in the auto-reader, press the top to seal the tube, crush the internal ampoule (using the auto-reader's ampoule crusher or using the ampoule crusher included in the SCBI's box) and make sure that culture medium completely wets the spore carrier at the base of the SCBI's tube. Please read and follow the SCBI's Instructions for Use before its use.

**Note:** Do not move, remove or change the position of the SCBI once the reading process has begun. If you do this, the results may be invalidated. For more information, please refer to the following section: *Cancelling a reading*.

If the auto-reader does not start a reading immediately after placing a SCBI in an incubation position, please refer to the following section: *Troubleshooting*.

**9** If a positive result is detected in an incubation position, the positive indicator light will turn on, and an audible alarm will sound. This indicates that the sterilization process to which the SCBI was exposed, has failed. Once the SCBI has been removed, the alarm and the positive indicator light will turn off automatically after 30 seconds. The position will be available to start a new reading once the positive indicator light has turned off.

**Note:** To cancel the audible alarm, press the button: 

If a negative result is detected in an incubation position, the negative indicator light will turn on. This indicates that the sterilization process to which the SCBI was exposed, has been successful. Once the SCBI has been removed, the negative indicator light will turn off automatically after 30 seconds. The position will be available to start a new reading once the negative indicator light has turned off. For more information, please refer to the following section: *Interpreting the results*.

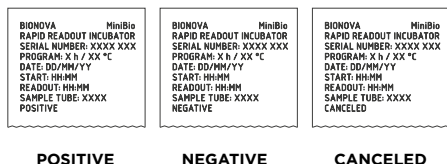
**Note:** The incubation time setting defines the upper time limit in which an auto-reader can provide a fluorescence readout. The auto-reader can, however, detect and provide a positive result before the selected time limit under normal operation. For more information, please refer to the following section: *Product compatibility and incubation programs*.

**10** Each time a readout is carried out, the auto-reader will store the fluorescence result, and a ticket will be printed to record it.

Pull the paper upward to cut it using the printer's serrated edge.


**Note:** If there is no paper for ticket printing, the attention indicator light will start blinking. For more information on how to change the paper roll, please refer to the following section: *Paper roll replacement*.


**Note:** The auto-reader will save the last 50 results. For more information on how to reprint results, please refer to the following section: *Reprinting the results*.



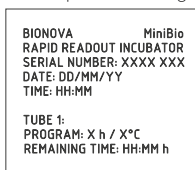
## Remaining incubation time

The remaining incubation time of ongoing incubations can be checked by printing a ticket.

To check the remaining time in a single incubation position, press and hold down the following button for 3 seconds: 

To check the remaining time on all incubation positions, press and hold down two of the following buttons simultaneously for 3 seconds: 

In each case a ticket will be printed informing the remaining time.



## Cancelling a reading

If an SCBI is removed from a position during the incubation process an audible alarm will sound. At the same time, the negative and positive indicator lights will start to blink fast to indicate that the SCBI should be returned into its original incubation position.

If the SCBI is not placed back after 10 seconds of being removed, the reading will be canceled automatically and a ticket will be printed.

## Interpreting the results

To indicate a positive result, the positive indicator light (red) will turn on at the incubation position of the auto-reader.

If a positive result is obtained when incubating an exposed SCBI, this indicates that the sterilization process to which the

SCBI was exposed has failed. This result is valid if a positive result is obtained for the positive control SCBI.

Act immediately if a positive result is obtained when incubating an exposed SCBI. Please refer to the sterilizer's Instructions for Use for more information.

To indicate a negative result, the negative indicator light (green) will turn on at the incubation position of the auto-reader.

If a negative result is obtained when incubating an exposed SCBI, this indicates that the sterilization process to which the SCBI was exposed has been successful. This result is valid if a positive result is obtained for the positive control SCBI.

**Note:** A positive result should always be obtained by the auto-reader when incubating a positive control SCBI. For more information, please refer to the following section: *Positive control*.

## Positive control

A positive control is a non-sterilized SCBI used as a reference during the incubation process. The use of a positive control is a recommended practice as it helps to ensure:

- The correct incubation temperature is reached.
- The viability of spores has not been altered due to improper storage temperature, humidity, or proximity to chemicals.
- The media is able to promote rapid growth and generate fluorescence.
- The auto-reader is operating correctly.

For the incubation of a positive control SCBI, press the top to seal the tube and crush the internal ampoule, making sure the media completely wets the spore carrier. Identify the control SCBI on its label. Place the positive control in an empty incubation position and incubate as described in the SCBI's Instructions for Use.


**Note:** The positive control and the exposed SCBI should come from the same batch.

**Note:** Incubate the positive control following the SCBI's Instructions for Use.

## Disposing of SCBIs

Dispose of the SCBIs in accordance with your country's waste-disposal guidelines. Positive SCBIs can be sterilized before discarding following the SCBI's Instructions for Use. It is not possible to use or incubate an SCBI more than once.

## Audible alarm


An audible alarm will sound every time a positive result is detected by the auto-reader. The alarm immediately informs the user that a positive result has been detected without the need to visually check the device. The alarm can be canceled by pressing the button: .

## Monitoring the temperature

The auto-reader features an automated internal temperature control. If the incubation temperature falls outside of the specified range of  $37 \pm 2$  °C or  $60 \pm 2$  °C, the temperature & stability indicator light will start to flash.

The incubation temperature can be externally monitored by placing an external thermometer in the hole for external temperature control located at the back of the auto-reader.

## Reprinting the results

The auto-reader allows reprinting of the last 3 fluorescence readout results. For reprinting the results, press and hold down the following button for 3 seconds: .

You can access the last 50 results using the Bionova® Cloud Web Application. For more information, please refer to the following section: *Bionova® Cloud Environment*.

## Thermal paper specifications

- *Recommended paper:* JIJOSD50KSE3 or similar (order code ICTP Mini)
- *Paper width:* 57 mm
- *Maximum paper thickness:* 60 g/m<sup>2</sup>
- *Maximum diameter size:* 23 mm

## Paper roll replacement




**1** To replace the paper roll, pull the handle on the printer door. Open the cover and remove the empty roll.



**2** Place the new paper roll with the outer side up.




**3** Close the printer cover by pressing on the sides of the lid.

**Note:** To feed the paper, press the button: .

## Configuration mode

The auto-reader features a configuration mode that enables you to set the printing language and the date format and time zone in the device.


To access to the configuration mode, turn on the auto-reader while holding down the following button for a few seconds: .

If the auto-reader has successfully entered to the configuration mode, the positive and negative indicator lights in all incubation positions will turn on and a ticket will be printed.

To change the date format, time zone and printing language, please follow the instructions listed below. To exit the configuration mode, turn off the auto-reader.



### Modification of date format and time zone

The date format and time zone modification function allows changing the date format and time zone of the auto-reader to suit better the local characteristics of your country.

To select the auto-reader's date format, make sure that the auto-reader is in configuration mode and press the button: .


The current date format will be printed in order to set a reference value and the negative indicator light corresponding to incubation position 1 (one) will start blinking.

Three types of date format are available: DD/MM/YY, MM/DD/YY and YY/MM/DD.

To move back and forth between the available options, press the buttons:  or .

After 2 seconds, a ticket with the selected format will be printed to set a reference.


**Note:** The default date format is DD/MM/YY.

To save the selected date format, press and hold down the following button for 3 seconds: .

To discard the changes, turn off the auto-reader.


Once the date format has been modified and saved, the auto-reader will enter to the time zone change mode automatically.

The current date (with the previously selected format) and the current time will be printed to set a reference.

To subtract hours, press the button: .

To add hours, press the button: .

After 2 seconds, a ticket will be printed, informing the selected time zone.

To confirm the change, press and hold down the following button for 3 seconds: .

To discard the changes, turn off the auto-reader.

**Note:** The green light indicator corresponding to incubation position 1 will stop blinking once both, the date format, and time zone modifications are saved.


**Note:** To exit the configuration mode, turn off the auto-reader and then turn back on.

### Modification of printing language


This functionality allows changing the language that appears on the tickets.

To select the printed ticket's language, make sure that the auto-reader is in configuration mode and press the button:

.

The current language and list of available languages will be printed to establish a reference. To move back and forth between the available options, press the buttons:  or .

After 2 seconds, a ticket will be printed informing the selected language.

To confirm the change, press and hold down the following button for 3 seconds: .

To discard the changes, turn off the auto-reader.

## Time setting mode

### Modification of the time using the firmware update utility

**1**Using the included USB cable, connect your auto-reader to a PC where the firmware update utility has been previously installed. Make sure the PC has a working Internet connection.

**2**Run the firmware update utility.

**3**Select the auto-reader from the list and press the button: *Clock Sync*.

**4**The auto-reader internal time and date will be synchronized with the PC's current time and date. Wait until the software indicates that the synchronization process has been completed.

**Note:** The synchronization process can only be done as long as there is not an ongoing reading.

### Modification of the time using Bionova® Cloud Agent

**1**Using the included USB cable, connect your auto-reader to a PC where the Bionova® Cloud Agent has been previously installed.

**2**Run the Bionova® Cloud Agent.

**3**Select the auto-reader from the list and press the button: *Clock Sync*.

**4**The auto-reader internal time and date will be synchronized with the PC's current time and date.

**Note:** The synchronization process can only be done as long as there is not an ongoing reading.

## ■ Additional features

### Firmware update

The auto-reader firmware can be updated (a program inside the auto-reader checks and defines the various features) with the firmware update utility. The firmware update utility connects to the Internet to check, download, and install the latest firmware version available for your auto-reader. The update process only lasts a few seconds and is carried out without the loss of any auto-reader's data.

Please visit [www.terragene.com/software](http://www.terragene.com/software) to download the firmware update utility.

#### Update process

Before updating the auto-reader, switch off the auto-reader for five seconds. Then, switch the auto-reader back on and follow the next steps:

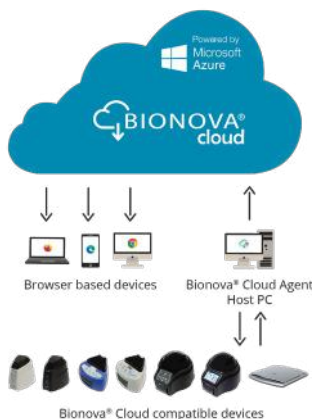
**1**Using the included USB cable, connect your auto-reader to a PC on which the firmware update utility has been previously installed. Make sure the PC has a working Internet connection.

- 2|Run the firmware update utility.
  - 3|Select the auto-reader from the list and press the button: **Start**.
  - 4|Wait until the software indicates that the update process has been completed. The auto-reader will print an update confirmation ticket. If the auto-reader is already up to date, no ticket will be printed.
- Note:** It's recommended that this process be carried out once a year, unless required by the manufacturer.

## ■ Bionova® Cloud Environment

The new Bionova® Cloud Environment is a Cloud based solution that integrates the information generated by Bionova® Auto-readers with an easy-to-use Web Application for the traceability of sterilization and disinfection control applications.

The Bionova® Cloud Environment comprises two main components: The Bionova® Cloud Web Application which is a web-based application, and the Bionova® Cloud Agent which is a Microsoft™ Windows Application that acts as an interface between Terragene® compatible devices and the web-based application.



The Bionova® Cloud Web Application can be used to manage and store the readout results of Self-contained Biological Indicators in a secure and user-friendly way.

The Bionova® Cloud Web Application matches the information of an indicator result with the sterilizer, the operator, cycle characteristics, and all relevant information so each institution complies with documentation and archiving regulations.

The Bionova® Cloud Agent handles all communications with Terragene® compatible devices and the Host PC where the Agent Application is operated.

The Bionova® Cloud Agent then acts as an interface between the Terragene® compatible devices and the Bionova® Cloud Web Application and sends the information generated from the devices to the Microsoft™ Azure powered Cloud server where the Web Application is operating and stores the information. The user can then access the information saved to the Cloud using any device with a compatible web browser.

To access to the Bionova® Cloud Environment please visit: [www.terragene.com/bionova-cloud](http://www.terragene.com/bionova-cloud)

For more information, please refer to the Bionova® Cloud User Manual.

## ■ Cleaning and maintenance

### Cleaning and decontamination of external surfaces

Disconnect the power supply cable and the USB cable from the auto-reader. If the auto-reader is hot, wait until it has cooled down before handling it.

Clean the external surfaces of the auto-reader using a microfiber cloth moistened with a solution of mild dish washing detergent and water. Wring the cloth so it is damp but not dripping before cleaning, and wipe the outer surfaces of the auto-reader. Afterwards, moisten a clean microfiber cloth with water only, and repeat the procedure until all traces of detergent are removed from the external surfaces of the auto-reader. After cleaning, allow the auto-reader to air dry for at least 1 hour before connecting the power supply cable or the USB cable again.

This cleaning procedure can be followed whenever considered appropriate.

This cleaning procedure must be followed every time a spill occurs on any of the external surfaces of the auto-reader.

If further cleaning is required, or if you have doubts about the cleaning agents you may use, please contact your local distributor.

**Note:** Do not clean the internal parts of the auto-reader.

**Note:** Do not pour liquid on to the device or immerse it in any liquid. Do not allow any liquid to enter device while it is being cleaned.

## Maintenance

The auto-reader does not require routine maintenance.

## ■ Troubleshooting

**Problem:** *The auto-reader will not start.*

**Possible causes:** Power supply is not connected.

**Actions:** Check that the power supply is connected to proper mains. Check that the DC plug of the power supply is connected to the rear of the auto-reader.

**Problem:** *The auto-reader is showing an error in an incubation position during the auto-test.*

**Possible causes:** An SCBI was placed in the incubation position during the auto-test. Dust particles might be obstructing the readout mechanism.

**Actions:** Check that every incubation position is empty during the auto-test. Restart the auto-reader.

If after restarting the auto-reader, the problem persists, use air to remove any dust inside the position. Do not insert solid objects. Once cleared, restart the auto-reader.

**Note:** Do not use the auto-reader in dusty environments.

**Problem:** *An incubation cannot be run in an SCBI incubation position (the positive indicator light is on).*

**Possible causes:** Position disabled. Error in that position during the auto-test.

**Actions:** Make sure that the position is empty when starting the auto-reader. Once cleared, restart the auto-reader.

**Problem:** *The auto-reader will not run an incubation in any position.*

**Possible causes:** The incubation temperature is not stable.

**Actions:** Wait until temperature is stable before any incubations.

**Problem:** *It is not possible to change temperature and/or time setting.*

**Possible causes:** Ongoing reading.

**Actions:** Wait for any incubation to complete, and try again.

**Problem:** *The printer will not print (the attention indicator light blinks quickly).*

**Possible causes:** The printer cover is not tightly closed. The printer is out of paper.

**Actions:** Check that the cover is tightly closed. Place a new paper roll in the right direction.

**Problem:** *The printer releases unprinted paper.*

**Possible causes:** The paper roll is not placed correctly.

**Actions:** Make sure the paper is placed in the right direction.

**Problem:** *The auto-reader cannot be updated.*

**Possible causes:** The firmware update utility is not running.

**Actions:** Install and run the firmware update utility. For more information refer to section: *Additional features*.

## ■ Warranty

The products are guaranteed to be free from material and workmanship defects when properly installed, maintained and used for their intended purpose as indicated in the applicable product label and/or the User Manual. The warranty only applies to the original purchaser.

### Term

The warranty period for the Bionova® MiniBio Auto-reader is 1 (one) year from the date of installation and may never be extended beyond 5 (five) years from the product's date of manufacture.

### Expected lifetime

The Bionova® MiniBio Auto-reader has an expected lifetime of 5 (five) years from the date of manufacture. This period is considered valid under normal operating conditions and provided that the equipment is installed, used, and maintained in accordance with the provisions set forth in this User Manual. Use outside these conditions may affect the product's lifetime.

### Limitation of liability

Terragene S.A. shall not be held liable for any loss or damage that result from the unsuitable use of the equipment, negligence or user's full responsibility.

### Technical assistance

For information regarding the functioning or condition of the product, contact Terragene S.A. directly to [info@terragene.com](mailto:info@terragene.com) or through our website [www.terragene.com](http://www.terragene.com)

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