The Wizard™

CompactDry™ Reader

Operating Instructions

HARDY DIAGNOSTICS
A Culture of Service™

Table of Contents

General Information and Warnings

The Wizard™ CompactDry™ Reader is designed to read and document CompactDry™ culture media plate colony counts with a color interpretation. The Wizard™ Compact-Dry™ Reader has selectable modes in the configuration menu designed to read the various types of CompactDry™ plates.

Notable Symbols and Precautions:

Caution: Read these operating instructions fully before use and pay attention to sections containing this symbol.

Always observe the safety precautions as specified by the operating instructions.

- If liquid is spilled inside the unit, immediately disconnect it from the power supply and contact Technical Support.

- Clean the unit only with a damp cloth; do not use chemical or abrasive cleaning agents.

- Before moving, disconnect at the power supply socket.

- Connect only to a power supply with voltage corresponding to that on the serial number label.

- Ensure that the main switch and power supply connector are easily accessible during use.

- After transport or storage in humid conditions, dry out the unit before connecting it to the supply voltage.

How to get the most from your CompactDry™ plates and The Wizard™ CompactDry™ Reader

Whether your lab is an established CompactDry™ user or in the process of validating its use, it is important that the proper use of the CompactDry™ plate products will greatly enhance the performance of The Wizard CompactDry™ Reader. Please note these important points and refer to the IFU (Instructions For Use) for each of the CompactDry™ plates:

- Carefully read through each section of this manual and the IFU for each Compact-Dry™ plate, conveniently located within the Hardy website, HardyDiagnostics.com

- Validate sample matrices and adjust settings as needed according to this manual before use.

- It is highly recommended to use a stomacher bag and filter the homogenized sample prior to inoculation to eliminate carry over of tiny particles onto the surface of the CompactDry™ medium. Small particles may interfere with photo optic detection mechanism.

- During and after incubation, keep the lid tight on the plates to avoid any possible dehydration.

- An additional dilution may be needed when the sample has a dark color, which is can be indicative of a high bioburden. Individual colonies may not be distinguishable on trays if concentrations are above 100 CFU/ml. In general, additional 1:10 dilutions will allow colonies to be visualized. The Wizard™ CompactDry™ Reader has a maximum detection limit of 150 CFU; however, the sample should be diluted to a concentration of less than 100 CFU/ml for best results. Refer to the procedure section and general dilution guidelines in the IFU for each plate type.

Getting Started

Unpacking

Remove the packing materials carefully, and keep for future shipment or storage of the unit.

The Wizard™ CompactDry™ Reader includes:

- Reader ....1 piece
- Power Supply and international adapters ....1 piece
- USB Flash Drive with Hardy Data Receiver Program..........1 piece
- Warranty Card..1 copy
- Operating Instructions...1 copy
- Quick Start Guide for setup..1 copy

Instrument Placement

1. Place The Wizard™ CompactDry™ Reader on a solid, level surface so that there is at least 10cm of clearance from adjacent walls. Ensure that the power switch, USB ports, and the ventilation slots on the side of the unit are free from obstruction.

2. Ensure the power switch is set to the OFF position before connecting to the power source.


ON
OFF

3. Connect The Wizard™ CompactDry™ Reader to the power supply. Plug power supply into an appropriate electrical outlet.

4. Switch the unit to the ON position utilizing the power ON/OFF switch located on the right side of the instrument.

System Accessories

Accessories are available for purchase to suit your laboratory work-flow. See page 26.

# Equipment Overview

Main System Components
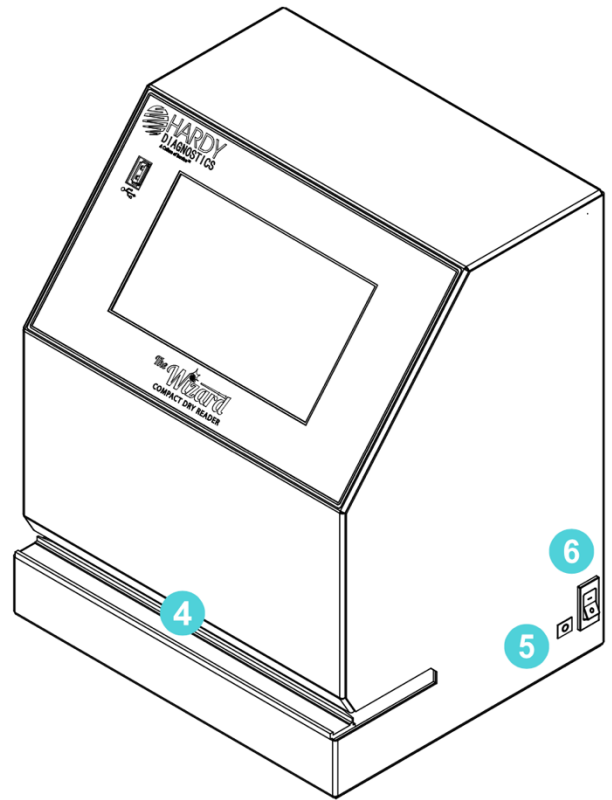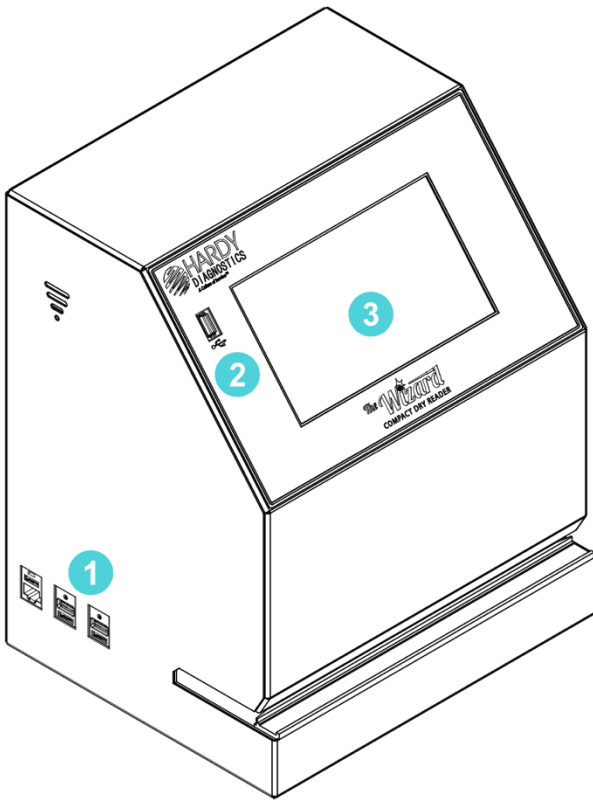
1 Side USB Connection (2x) + Ethernet Connection

2 Front USB Connection (1x)

3 Touch Screen Interface

4 Plate Indexing Tray

5 Power Connection Port

6 Power Switch

Equipment Overview (continued)

⚠️ PLATES MUST BE INSERTED WITH THE LIDS AFFIXED TO THE BASE AND FACING DOWNWARD. FAILURE TO INSERT PLATES PROPERLY MAY CAUSE INCORRECT PLATE COUNTS, SYSTEM ERRORS, DAMAGE, OR CONTAMINATION.
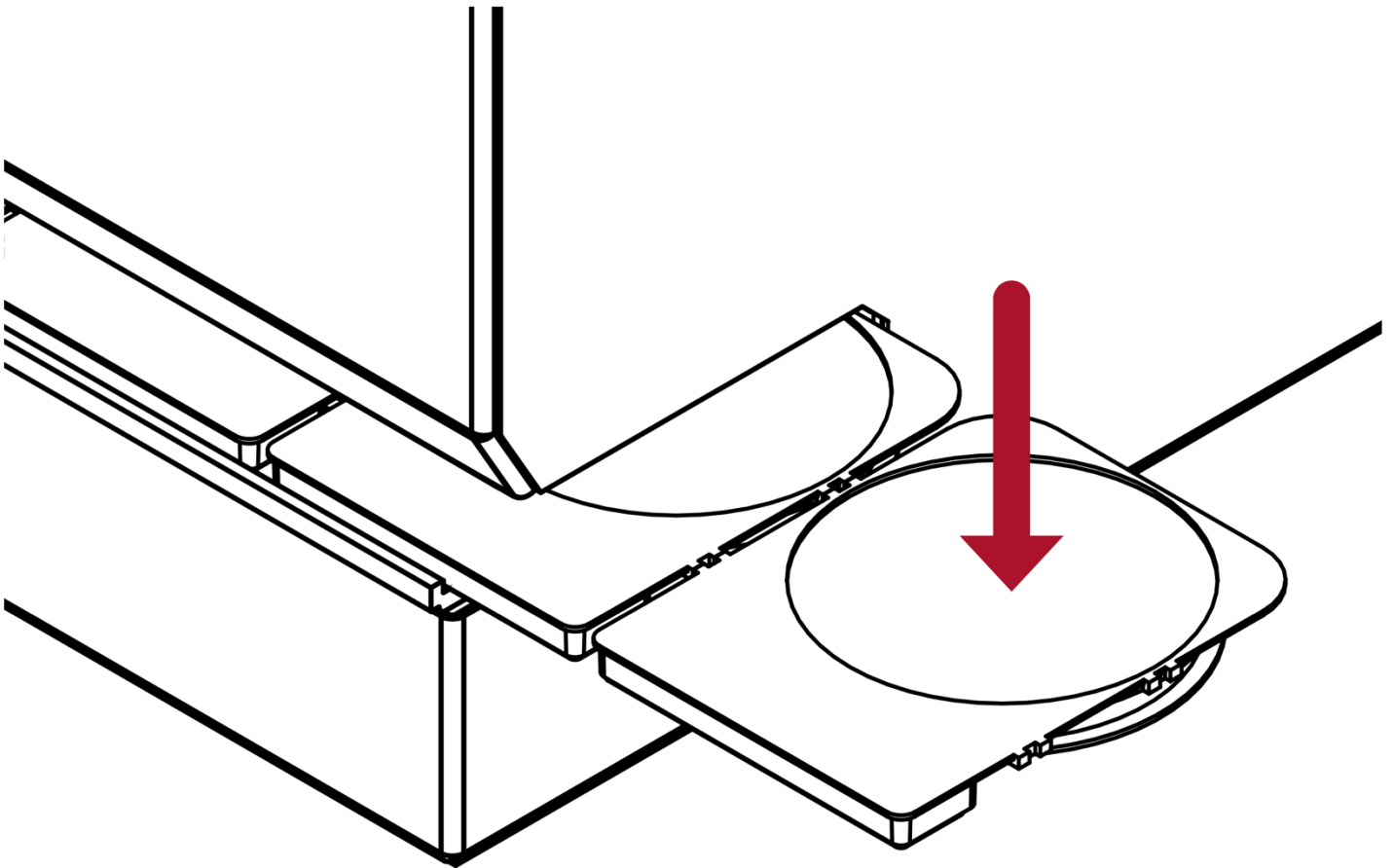
General Operation

The system has been designed to accept and index only CompactDry™ plates.

CompactDry™ plates must be inserted face down with the lids on.


**Plates face down
with lids on**
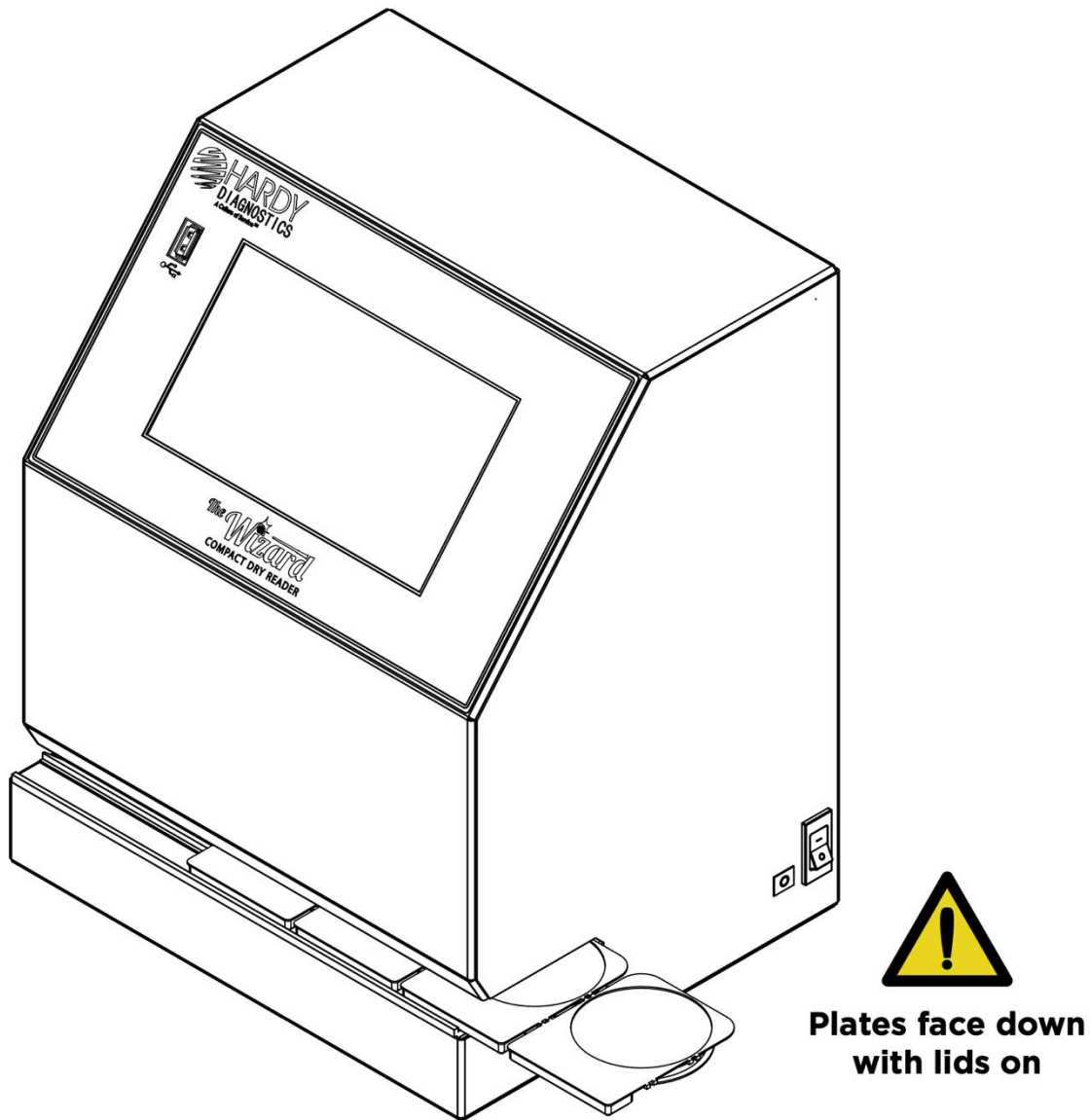
1. Make sure the outside of the plates are dry and free of debris and the plate lids are securely fitted.
2. Plates can be inserted in connected sets or one at a time.
3. Turn plate(s) so lid is facing down.
4. Hold the CompactDry™ plates by the raised rectangular tab.
5. Slide the plates into the unit from either the right or left hand side.
6. The first plate will "click" into place when positioned correctly for imaging.

User Interface

Home Screen Operation

The Home Screen is the first screen displayed after the unit is done initializing upon powering on. From the Home Screen, the operator can navigate to the Read Screen where CompactDry™ plates are imaged and analyzed. The operator can also configure the system and change the sensitivity via the Configure Screen. The Home Screen is also used to safely remove a USB flash drive.
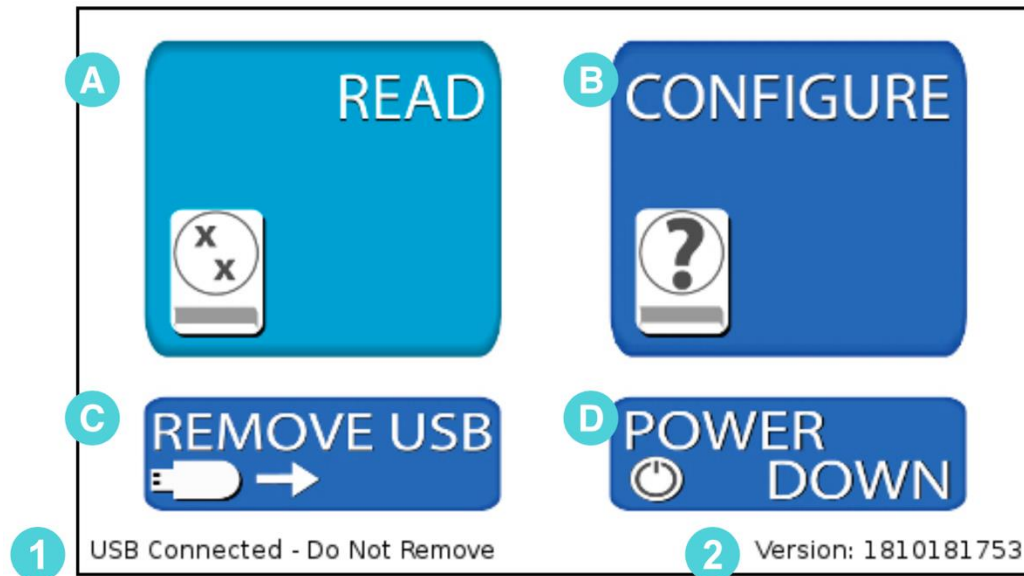
☐ READ – Accesses the Read Screen. From the Read Screen, CompactDry™ platesare imaged, colonies are counted, analyzed, and the data is saved (complete guide pg. 8).

☐ CONFIGURE – Used to adjust settings and change the unit data saving settings (complete guide pg. 13).

☐ REMOVE USB – Used to safely remove a USB Flash Drive. Errors can occur if the USB Flash Drive is removed incorrectly (complete guide pg. 21)

☐ POWER DOWN – Used to properly shut down the unit. Press the power down button before turning off the main power switch to ensure proper shutdown (complete guide pg. 22).

1 USB Flash Drive Status – This portion of the screen displays USB Flash Driveconnection status.

2 Software Version Information – This area of the screen displays information on the system software version.

A Read Screen Operation

The Read Screen includes features that allow the user to count the number of colonies on a CompactDry™ plate, access the Edit functions, and access the Save Screen. Within the Read Screen are the following functions:

- Read Screen
- Edit Screen
- Save Screen

Be sure The Wizard™ CompactDry™ Reader is set to the proper CompactDry™ plate that is being read before using the READ function. Reference the MODE name at the top of the screen to ensure the unit is set to the proper plate type.
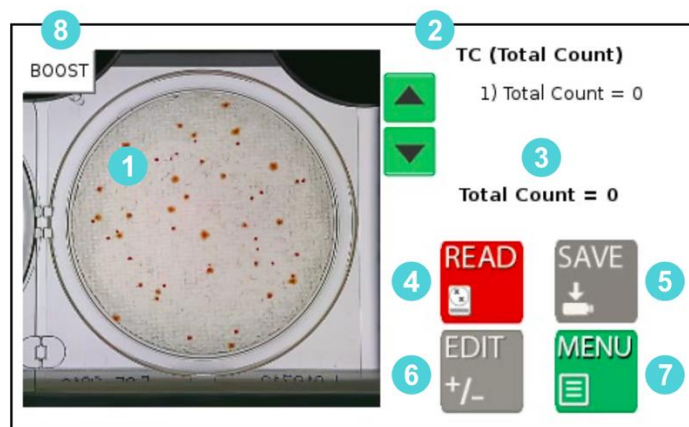

1   Video/Image Feed Window – The initial video feed of the plate is displayed in this window. Once the image is analyzed, the colonies will be highlighted and counted. To clear the highlighted colonies, touch anywhere on the image and the marks will be cleared.

2   Mode Name – The text in the top right-hand side of the display shows the current plate mode. Make sure the mode matches the type of plates being imaged.

3   Count Output – The middle section of the right-hand side of the display contains the colony count data. This data can then be saved and/or printed.

4   Read Button – Read the image in the Video/Image Feed Window.

5   SAVE – Save the data to a USB Flash Drive and/or print the data to a USB thermal printer. The Save Button will be inactive (gray in color) until the plate is read.

6   EDIT – In some cases, overlapping colonies may affect The Wizard™ CompactDry™ Reader's ability to obtain a proper plate count. The Edit Button allows the user to correct the reading before the data is saved to a USB flash drive, or printed with the USB thermal printer. The Edit Button will not be active (gray in color) until the plate is read.

7   MENU – Returns the operator to the home screen.

8   BOOST – Raises the camera sensitivity to colony size and chromogenic reaction during analysis, and can be used when lighter or smaller colonies are difficult to detect.

READ SCREEN (Post Reading)

After the image has been read, The Wizard™ CompactDry™ Reader will automatically direct you to the Post Read Screen.
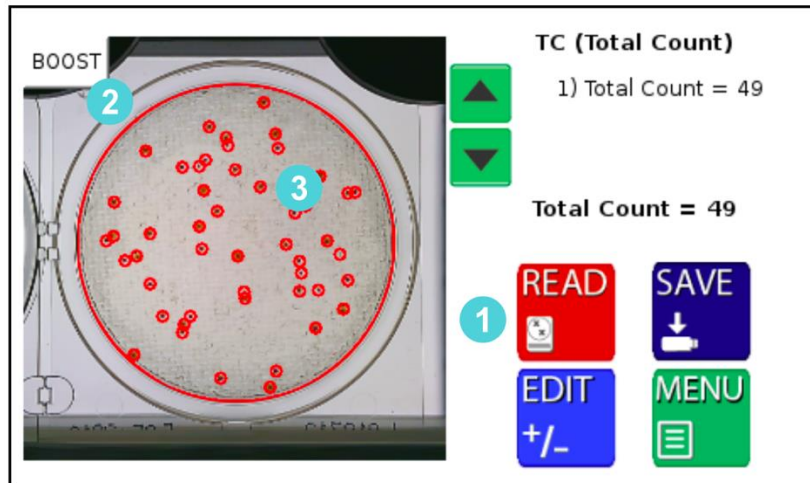
1 Read Initiated – Can be used to re-read the plate if edits are applied.

2 Perimeter Marks – The perimeter of the plate is detected and marked in red.

3 Colony Marks – Colonies are circled in a specific color. The color and design of the marker can be changed in the Markers Screen (see pg. 13).

4 Unknown Colony Marks – The Unknown Colonies are marked with an "x" by default and counted separately. The color and design of the marker can be changed in the Markers Screen. Unknown count is recorded for any debris or particulate that is on the plate. This function is turned off by default.
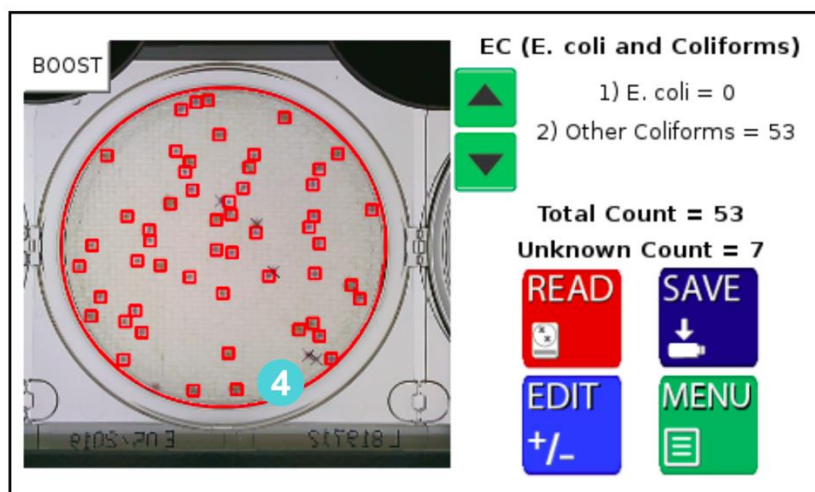
Edit Screen

This feature is for manually adjusting colony counts. For QC and validation purposes, please use the Advanced Configuration feature (see pg. 15). This feature will not change how a colony is categorized, it will only change if it is recognized. A more in-depth method is required if the colony is not categorized correctly.

Within the Edit Screen are the following functions:

- Plate designation/colony type check
- Colony count adjustment
- Adjust screen sensitivity
- Boost function

If The Wizard™ CompactDry™ Reader is not detecting all colonies due to overlap or obscurity, users have three options to adjust their plate count.
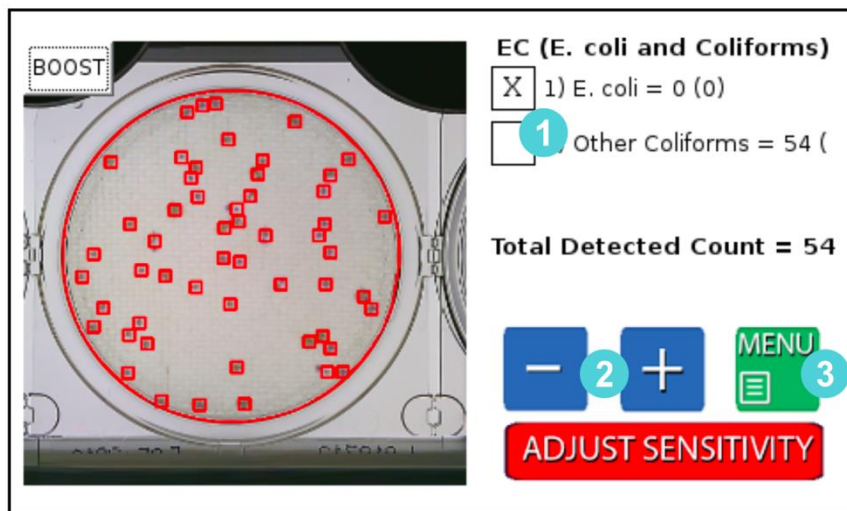
1 First, select the type of colonies that require a count adjustment.

2 Adjust the count with the -/+ buttons. The image will not change but will add or remove colonies numerically to the selected colony type.

3 Exit back to the read screen with the MENU button. The updated count can now be saved to the USB or printed with the thermal printer.

Sensitivity Screen `ADJUST SENSITIVITY`

Allows user to manually raise or lower camera sensitivity preferences.
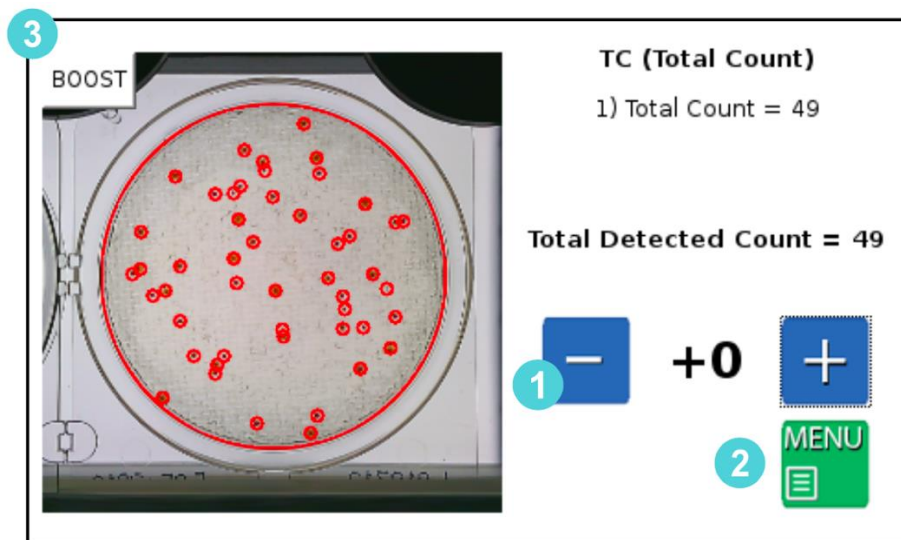
1 - / + Buttons - Adjust the sensitivity up/down to all the colonies.

2 Menu – Press the Menu button to exit to Sensitivity Screen.

3 Boost `BOOST` – Can be calibrated through Advanced Configuration (see pg. 15).

Save Screen

Users have the ability to save their data in different ways:

1 **Sample ID** – Enter the name of the sample or identification number. Optional Barcode Scanner or USB Keyboard can also be used to input this data.

2 **Print** – The Print Button will send the data to the USB thermal printer. Sample ID, colony count data and images of the plate will be printed in black and white. Based on the configurations setting, the camera will print the raw image and/or the image with the markers.

3 **Save** – Plate count data will be saved to a USB drive as a CSV file listed by the Sample ID. The image of the plate with or without the markers can also be saved to the USB.

4 **Send** – Data can be sent to PC, LIMS, or the Hardy Data Receiver Program (HDRP, see pg. 23) by use of the USB to Ethernet adapter. For established LIMS (Laboratory Information Management System) integration, users will need to work with their LIMS provider to integrate The Wizard™ CompactDry™ Reader into their software.

5 **Exit** – This enables the user to exit the keyboard function and return to the previous screen.

6 **Dilution Factor** – Use the Up/Down arrows to change the dilution factor. This will output the CFU/ml and Dilution Factor when saving the data.

B Configure Screen
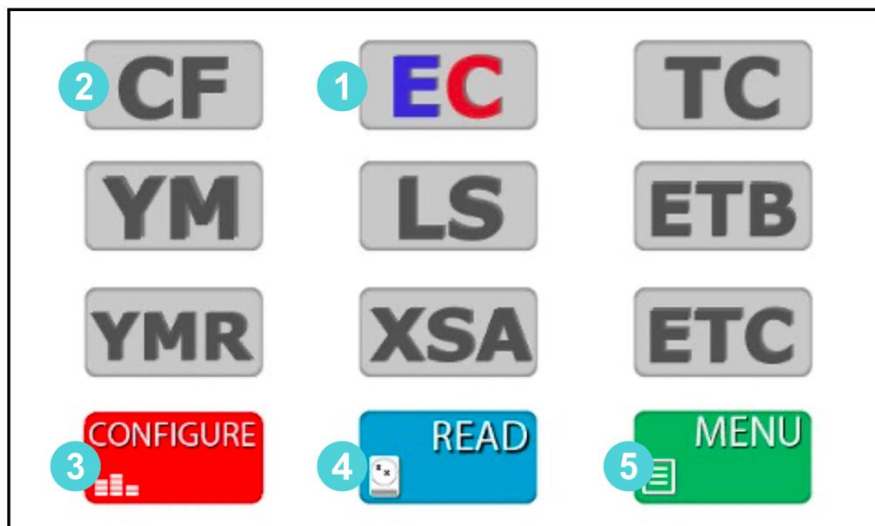
1. Selected Plate – Will appear in color. Make sure this mode matches the type of CompactDry™ plate the operator is reading.

2. Deselected Plates – The deselected mode buttons will appear in gray.

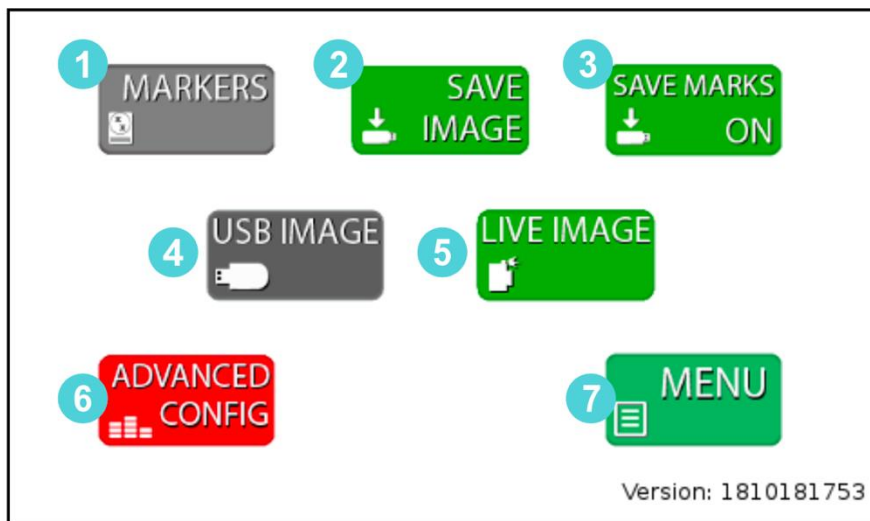3. CONFIGURE Settings –

   From the Configure Screen, users can access the following options (see pg. 14):
   - Adjust markers
   - Save image
   - Save markers
   - Review plates stored on USB
   - Live Imaging
   - Advanced Configuration

4. READ - Returns the operator to the Read Screen.

5. MENU – Returns the operator to the Home Screen.

Configure Settings

1. **MARKERS** – Colony count markers can be customized to plate type. Users have the option to change the color, shape, weight, and size of the markers for different plate modes.

2. **SAVE IMAGE/SAVE DATA ONLY** – When this option is highlighted green, saved files will include an image of the plate with the corresponding plate read data. When option is in gray, saved files will include only the raw data from the plate read.

3. **SAVE MARKERS ON/OFF** – When this option highlighted green for ON, saved files will include two images, one with colony markers and the original raw image of the plate. When option is gray, saved file will only include raw image of plate.

4. **USB IMAGE** – Allows users to review and read plates stored on a USB drive.

5. **LIVE IMAGE:** The default setting for the Wizard reader allows users to read CompactDry™ plates in real time.

6. **ADVANCED CONFIGURATION** – This option will be used when calibrating andvalidating The Wizard™ CompactDry™ Reader for your sample matrix.

7. **MENU** – Takes users back to plate mode configuration screen.

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Advanced Configuration

Press **CONFIGURE** then **ADVANCED CONFIG** and then enter the code 0855 to enter the Advanced Configuration screen.
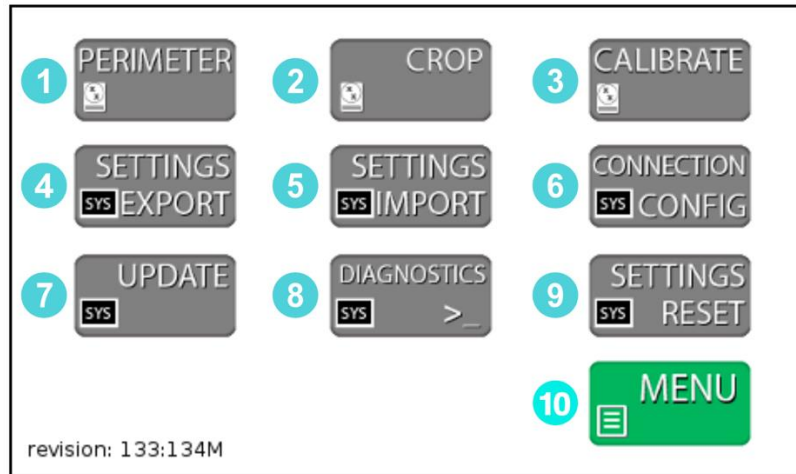
1 PERIMETER - Used to adjust the settings for perimeter detection. This is set duringthe factory calibration and should not require adjustment.

2 CROP - Used to adjust the settings for cropping the image. This is set during the factory calibration and should not require adjustment.

3 CALIBRATE - Enters the CALIBRATE Screen. The CALIBRATE Screen is where the operator can calibrate the colony detection settings.

4 SETTINGS EXPORT Button – Used to save the Calibration data and system settingsto a USB drive. This can then be used to calibrate an additional unit with the SETTINGS IMPORT Button.

5 SETTINGS IMPORT Button – Used to save new Calibration data and system settings to the unit from a USB drive. Settings can be updated easily with the SETTINGS IMPORT Button

6 CONNECTION CONFIG Button – Used to connect the Thermal Printer and HDRP or LIMS systems. Once these devices are connected, use this menu to detect andupdate the communication settings.

7 UPDATE Button – If the system requires a Firmware Update via USB drive, this button is used to load the new firmware onto the unit.

8 DIAGNOSTICS Button - For factory use only.

9 SETTINGS RESET Button – Resets to the original factory settings.

10 MENU Button - Returns user to CONFIGURE screen.

Unit Calibration – Calibrating the Unit

If the system is not detecting colonies it will require calibration. The Wizard detects colonies based on the contrast between the background color and the colonies. It then determines if the colony is to be counted by checking it against a color and size profile. The color is made up of Blue, Green and Red values. There are two methods to calibrate the unit effectively.

1. Quick Sensitivity Adjustment – If a unit is not detecting colonies, the sensitivity can be quickly adjusted in the EDIT screen from the Sensitivity Button. However, it is recommended to perform a complete calibration as listed in the next steps below. This method is designed to be a quick work around for "on the fly" sensitivity adjustments which are normally accomplished with a complete calibration. This method will not change how a colony is categorized, it will only change if it is recognized so a more in-depth method is required if the colony is not categorized correctly. Press **ADJUST SENSITIVITY** to proceed with the adjustment.

2. Configuration Menu Method – The Configuration Menu Method breaks the calibration into two parts. This is the recommended method for configuring the unit for quality control prior to use.

   a. Sensitivity Screen – Determines what is a colony or detected object based on contrast sensitivity and size. A boost function is added for enhanced detection of pinpoint colonies and may be calibrated separately in the same screen.

   b. Colony Type Screen – The Colony Type looks at all detected objects and determines if the object is the colony of interest based on color and size. For modes that detect multiple types of organisms (YM and EC), multiple Colony Type Screens are used. A boost function is added for enhanced detection of pinpoint colonies and may be calibrated separately in the same screen(s).

Summary – If a colony is not detected, the sensitivity requires adjustment. If a colony is detected but it is classified incorrectly then the Colony Type Screen will be used to calibrate the unit. Both adjustments are required to complete a full calibration for quality control. An added boost function for enhanced sensitivity may be calibrated during normal calibrations.

CALIBRATION SENSITIVITY Screen

The calibration screen can be accessed from the Configuration Menus. The first calibration screen detects all objects on the plate. A second and sometimes third filter will determine the type of colony detected. Make sure the unit is in the correct mode before calibrating. The unit will take a still image of the plate during calibration to limit distortion of the sample. The unit will not operate as quickly as in the READ Screen because it is updating and performing calculations. All - / + buttons in the Calibration screens are dual action. They can be pressed once for fine adjustment or held down for large adjustments. Every time the calibration values are changed the unit will update the detection algorithms.

CALIBRATION BUTTON:
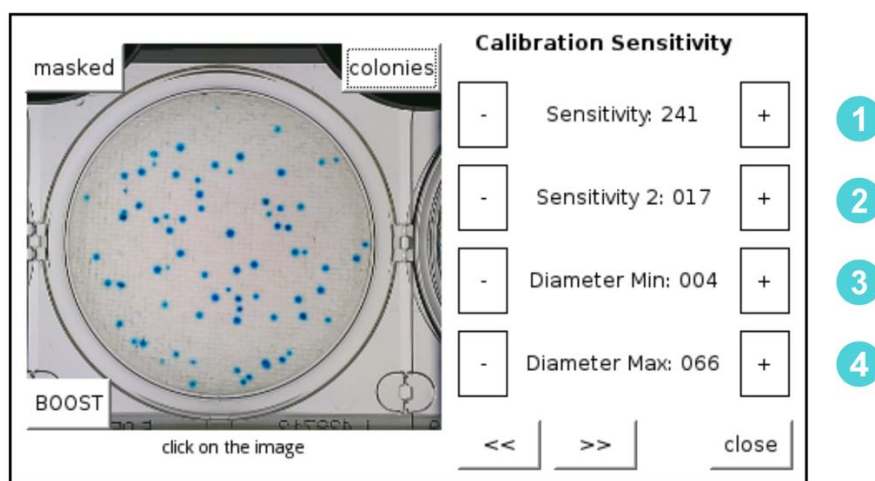
1. The first step of calibrating the unit is to determine the best settings for picking up all the objects on the plate. **1** Sensitivity and **2** Sensitivity 2 adjustments determine how sensitive the unit is to detecting objects. The **3** Diameter Min and **4** Diameter Max adjustments are used to filter out items too small or too big, respectively.

2. The second step of the calibration is calibrating the unit to count the correct colonies.

3. The third step (if necessary) is calibrating the unit to count a second type of colony like the YM (Yeast and Mold Mode) or EC (*E. coli* and Other Coliform Mode).

4. Steps 1-3 may be repeated to calibrate the Boost function which allows for enhanced sensitivity.

Visualization Tools for the Calibration Sensitivity Screen

There are three tools in this screen that assist in the sensitivity calibration.

1. A picture of the 5plate being used for calibration is displayed on the screen. This screen can also be touched to display the Detail on the colony. Until a colony is selected, the display will read "click on the image." After selecting a colony, the details can be used to adjust the settings. Colony Detail Format:

⭐ #Colony Number (Value, Saturation, Hue) Diameter Roundness
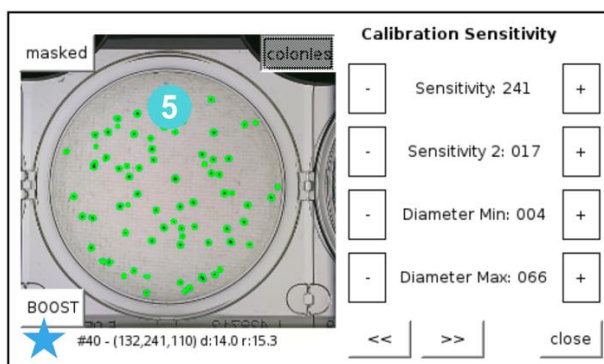
2. The MASKED 6 Button toggles the view to a black and white image showing the objects detected in white. This is very helpful for determining the sensitivity setting.
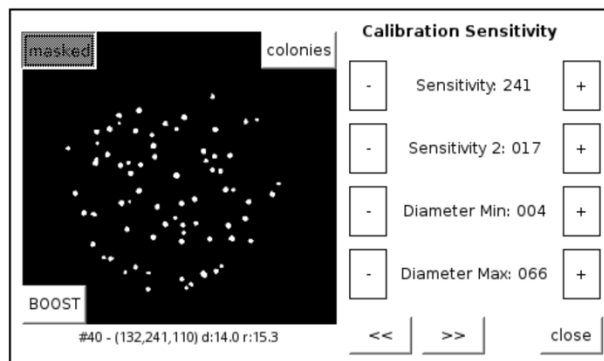
3. The 7COLONIES VIEW Button (7) is on by default and it highlights the Colonies in bright green. This is useful in both SENSITIVITY and COLONY TYPE detection.

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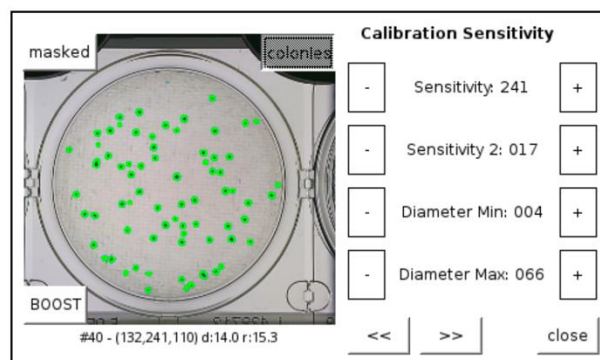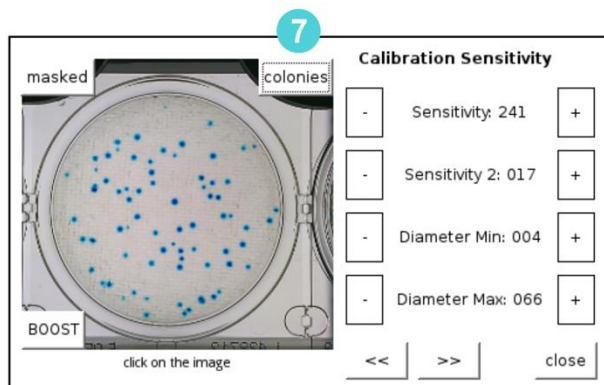
Procedure: Adjust the SENSITIVITY and the Diameter until all colonies are detected and highlighted in the COLONIES VIEW.
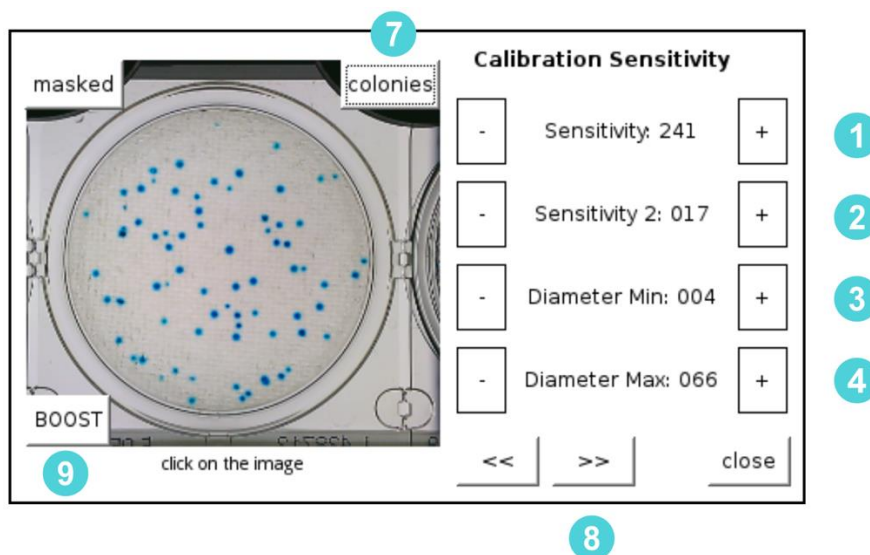

STEPS FOR SENSITIVITY CALIBRATION

1. Set the **3** MIN DIAMETER to **2** and **4** MAX DIAMETER to 50 to start the process. Raise the **3** MIN DIAMETER to exclude smaller objects if desired. Likewise, lower **4** MAX DIAMETER to exclude larger objects as needed.

2. Increase / Decrease the **1** SENSITIVITY and **2** SENSITIVITY 2 until all the colonies are highlighted. Make sure the **7** Colonies button is active, otherwise the colonies will not become highlighted. **1** SENSITIVITY is the primary function for controlling sensitivity and the threshold of the algorithm while **2** SENSITIVITY 2 may be considered fine tuning of sensitivity. The higher the **1** SENSITIVITY the more objects the unit will detect. The lower the **2** SENSITIVITY 2 the more sensitive **2** SENSITIVITY becomes. The higher the **2** SENSITIVITY 2 the less sensitive **1** SENSITIVITY tuning becomes.

3. To calibrate enhanced sensitivity for smaller pinpoint and fainter colonies, press the **9** BOOST button and repeat steps 1 and 2 as needed.

4. When all of the objects of interest are detected use the **8** FORWARD ARROW to move to the next calibration screen. At any time the operator can exit the menu. The updated settings can be saved or discarded when you close the menu.

COLONY TYPE Screen

The second and sometimes third step of the calibration process is configuring the unit to count the correct colonies based on their color and size.
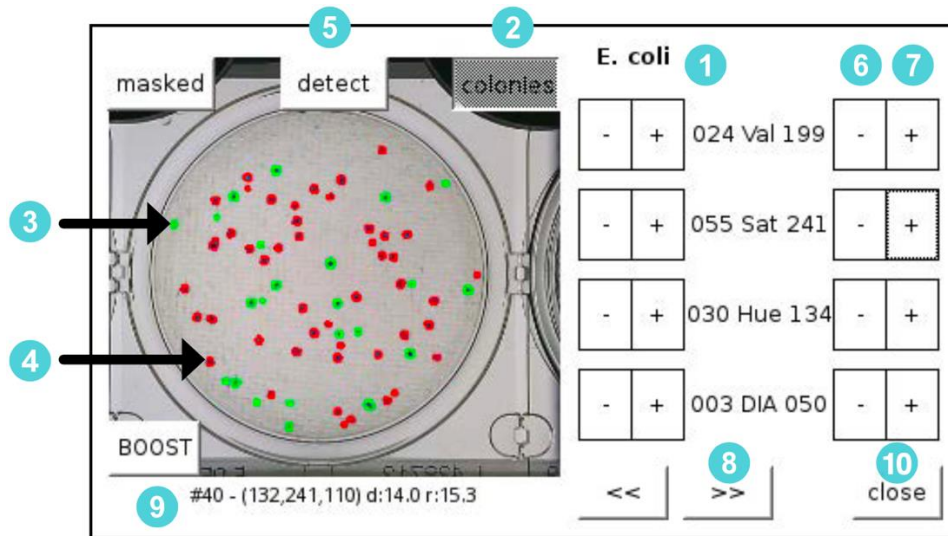
Overview

The second and third steps of the calibration configure the unit to count the correct colonies based on their Values, Saturation, Hue and Diameter.

STEPS FOR COLONY TYPE CALIBRATION

1. Make sure you are calibrating for the **1** correct mode. The example above is for an *E. coli* plate.
2. Make sure the **2** COLONIES VISUALIZATION is on.
3. Colonies that are counted are highlighted in **3** GREEN, colonies that are detectedbut are not counted are highlighted in **4** RED. If colonies are not detected at allthen return to the Calibration Sensitivity Screen to update the sensitivity settings.
4. Press the **5** DETECT Button. Now touch a colony that should be counted that is not counted, this colony will be **4** RED. This will adjust the settings to include thetouched colony. You can continue to touch RED colonies with the **5** DETECT modeenabled until all required colonies are counted.
5. If you cannot obtain the correct settings with the **5** DETECT Function, turn the function off and touch the colony that is not being detected. Review the Values, Saturation, Hue and Diameter values of this colony. Adjust the **6** MIN and **7** MAXranges of the values to include the colony values.
6. When all the objects of interest are detected use the **8** FORWARD ARROW if thereis another colony type and repeat the process or touch the **10** CLOSE Button. Confirm the changes if the unit is reading correctly.
7. Repeat steps 1-6 as needed to calibrate the **9** BOOST function.

C Remove USB **REMOVE USB**

The Wizard™ CompactDry™ Reader does not store data directly on the unit. Data will need to be stored using a USB thumb drive, or direct to a PC or LIMS option. There are three USB ports available. The USB port located on the front of the machine is recommended for ease of access.
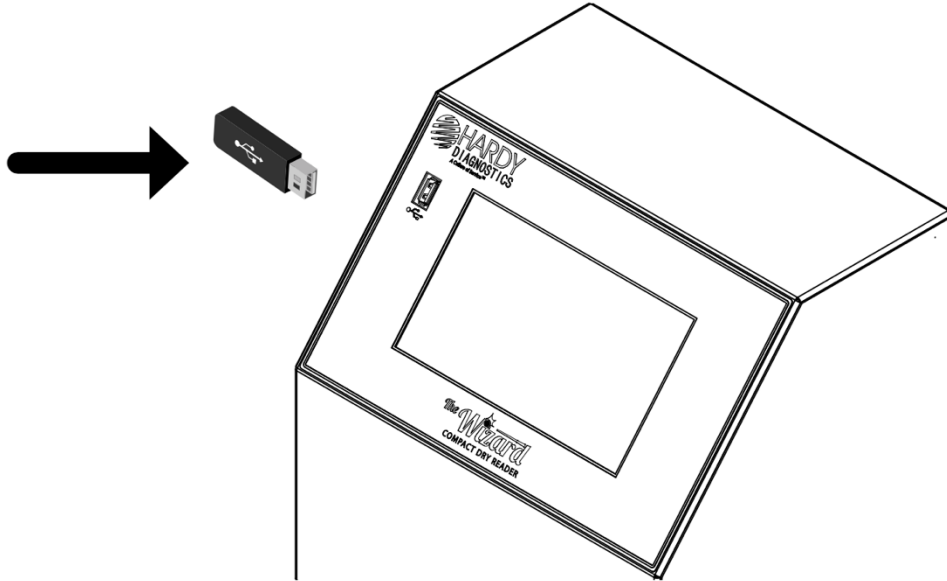
⚠️ In order to prevent errors in data, please use the "Remove USB" function located on the home screen to safely remove your USB device.
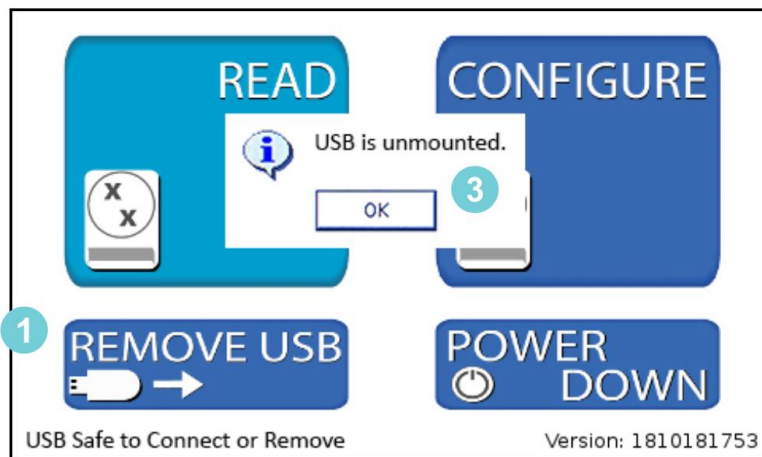
1   Select "Remove USB" from the Home Screen.

2   Confirm it is safe to remove the USB flash drive by checking the USB status in the bottom left hand corner of the Home Screen.

3   Once status reads "USB is unmounted," it is safe to remove your USB device.
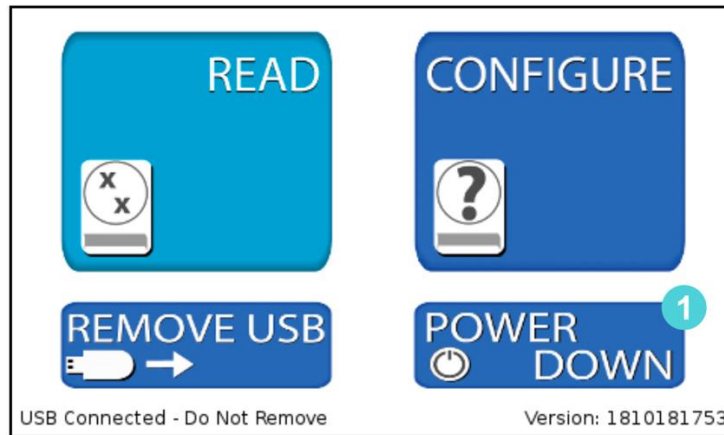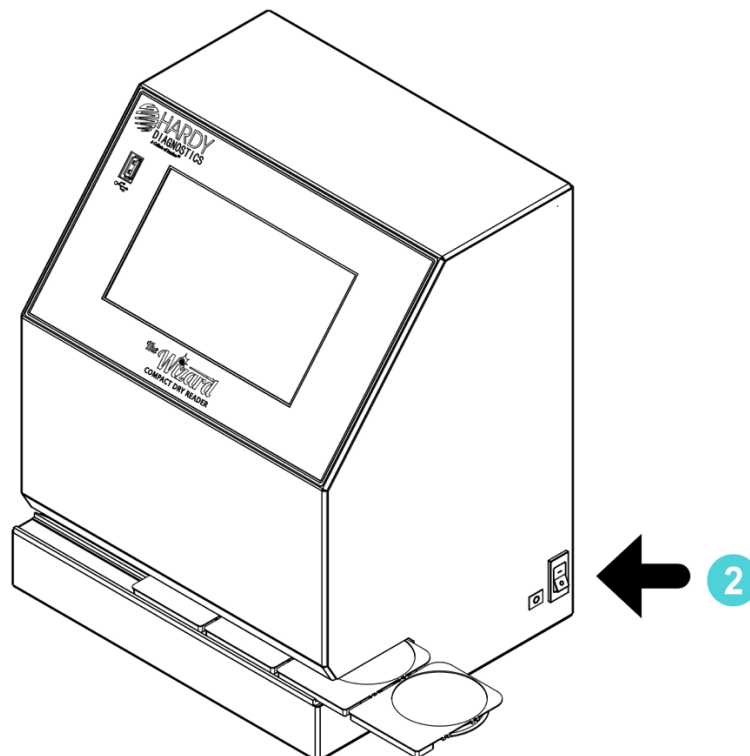
D Power Down

⚠️ Use the POWER DOWN button located on the Home Screen to safely shut down the Control System.

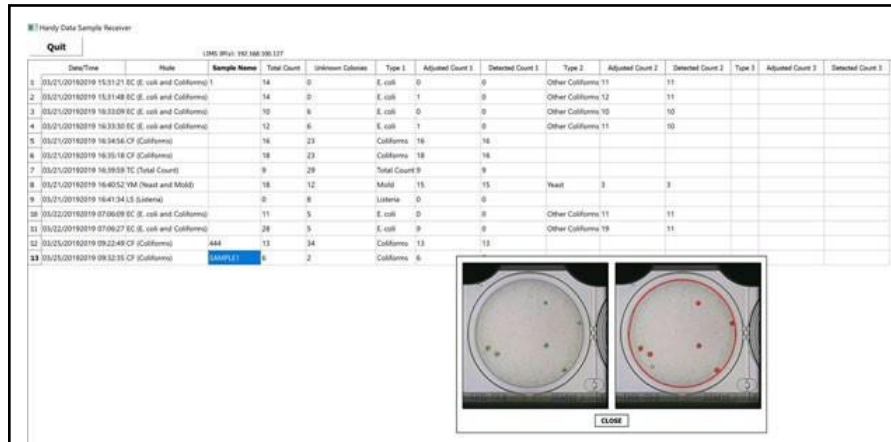1   Power down the Control System, using the POWER DOWN button.

2   Ensure all plates are removed and click power switch to the OFF position.

How to connect to the Hardy Data Receiver Program

Users have the option of uploading the Hardy Data Receiver Program that comes on a USB flash drive with The Wizard™ CompactDry™ Reader. This program will organize the images and data collected by The Wizard™ CompactDry™ Reader.

For instructions on using the Hardy Data Receiver Program, follow the directions below for a wired connection:

What you'll need to get started with the Hardy Data Receiver Program:

- Windows PC with wired Ethernet capability
- USB drive with "Hardy Data Receiver" file
- Ethernet switch
- Ethernet Cables (x2)

Machine Requirements:

- PC running windows 8.1 or newer version
- Firmware setting to allow a database connection

How to upload the Hardy Data Receiver software:

- Connect your windows PC to the Ethernet switch using an Ethernet cable.
- Upload and save the "Data Receiver" file onto your PC from the provided USB drive.
- Extract the content of the "data receiver" file to your PC.
- Open the unzipped "data receiver" file and double click the file named "Hardy Data Receiver." This will launch the program.

How to connect your The Wizard™ CompactDry™ Reader:

- Make sure your Wizard Reader is powered down.
- Connect the USB to Ethernet adapter to an available USB port on The Wizard™ CompactDry™ Reader.
- Insert Ethernet cable into the USB to Ethernet adapter.
- Plug the opposite end of the Ethernet cable into the Ethernet switch.

Ethernet Cable #1   Ethernet Cable #2

Ethernet Switch

The Wizard™ CompactDry™ Reader.

PC

For instructions on using the Hardy Data Receiver Program, follow the directions below for a wireless connection:

What you'll need to get started with the Hardy Data Receiver Program:

- Windows PC with wired Ethernet capability
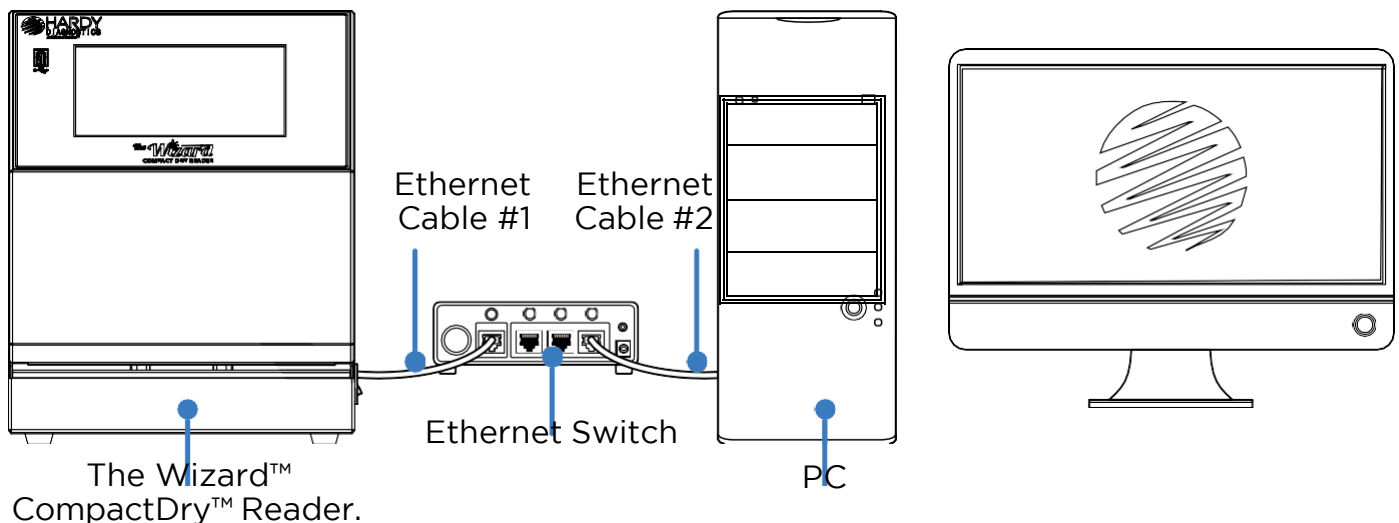- USB drive with "Hardy Data Receiver" file

Machine Requirements:

- PC running windows 8.1 or newer version
- Firmware setting to allow a database connection

How to upload the Hardy Data Receiver software:

- Connect your windows PC to the Ethernet switch using an Ethernet cable.
- Upload and save the "Data Receiver" file onto your PC from the provided USB drive.
- Extract the content of the "data receiver" file to your PC.
- Open the unzipped "data receiver" file and double click the file named "Hardy Data Receiver." This will launch the program.

Configuring the Wizard™ CompactDry™ Reader Connection:

- Once the Hardy Data Receiver software is installed and running navigate to the Connection Config in the Advanced Configuration Menu

1 Network Settings – Select Network Settings to configure the connection

2 Select Wifi or Wired – Select the type of connection required. The PC must be on the same network as the Reader. If you select wifi you will be able to scan for wireless networks by using the SCAN NETWORKS feature. Enter the SSID and Passphrase for the wireless network to connect. Connection may take some time to establish.

3 Static or Dynamic Ip Address – The Reader has the ability to use a Static or Dynamic IP address. Dynamic allows the network to assign the Reader the IP address and it is the default setting.

4 Connected - When the unit is connected to the network the box will say connected. The connection can be reset with the "reset" button.

5 LIMS Settings – Enter the LIMS Settings Menu. You will need to enter and save the IP Address of the Hardy Data Receiver Program. This is located in the upper left hand corner of the Data Receiver Program.

Connecting the USB Thermal Printer

- Connect the power cord and the USB cord to the printer.
- Connect the USB cord to The Wizard™ CompactDry™ Reader and power on the unit.
- Navigate to the CONNECTION CONFIGURATION from the Advanced Configure Screen to configure the printer. Passcode $\boxed{0855}$

1 Touch DETECT to detect the printer.

2 Touch INSTALL to update the settings and connect to the printer. The printer will now print the readout and images depending on the settings.
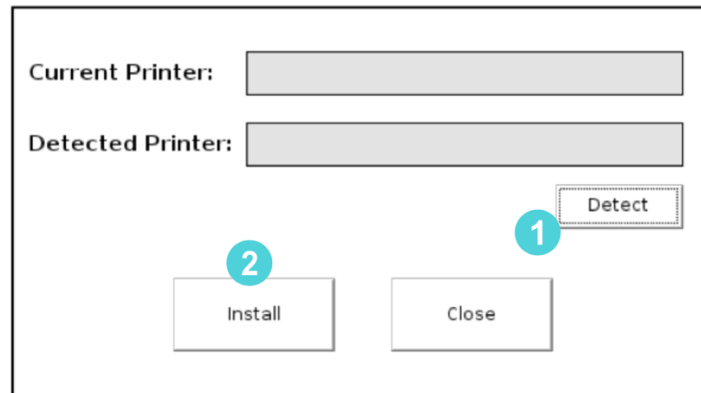
Accessories

Accessories – The (3) USB ports on The Wizard™ CompactDry™ Reader can be used with the following devices:
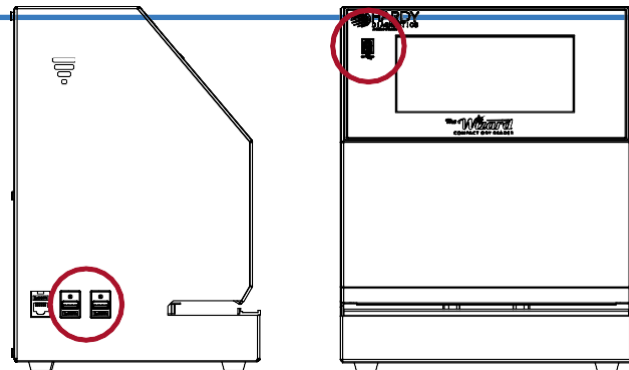
A) USB Flash Drive (included) – The USB flash drive is used to save sample count data and sample images.

B) USB Wireless Keyboard (sold separately) – The USB Wireless Keyboard is used for quickly inputting sample (Cat. no. 120103).

C) USB Barcode Scanner (sold separately) – Barcoded samples can be scanned with the barcode scanner to input the sample identification information. To use the Barcode Scanner, scan the sample barcode when the unit prompts for the sample name (Cat. no. 120102).

D) USB Thermal Printer (sold separately) – The USB Thermal Printer prints sample count data and an image of the CompactDry™ plate (Cat. no. 120101).

Limitations

The Wizard™ CompactDry™ Reader can be configured to identify pinpoint colonies; however, debris may interfere with the identification of colonies of equal size, so sample filtration using a filter bag is highly recommended prior to plating.

The Wizard™ CompactDry™ Reader has been configured and validated with several hundred food samples and ATCC organisms. It is expected to detect most sample types by its default settings. However, due to the high variability of sample types, labs are strongly recommended to perform a validation of their samples and make settings adjustments as directed in the manual to ensure that the unit performs optimally. Users should be aware that the following limitations may affect the unit's ability to accurately read colonies:

- Debris
- Colony density, visibility, and size
- Background artifacts
- Incubation times

It is imperative that ground or blended samples are properly filtered to remove debris that can mimic or mask the appearance of a colony. This can be easily accomplished by using a membrane filter bag. In particular, pinpoint sized colonies can be configured in the "BOOST" function to be accurately detected provided competing debris of equal size and color aren't present on the plate. It is recommended to use a stomacher and filter homogenized sample afterwards, which will both help to eliminate carry-over of tiny particles of sample onto the surface of the medium.

Sample plates should be diluted to achieve no more than 150CFU, which is The Wizard™ CompactDry™ Reader 's limit of detection, and it is further recommended to dilute to 100 CFU or less for optimal performance. Please refer to the Procedure section of the IFU associated with the plate type that is being read on The Wizard™ CompactDry™ Reader.

Please refer to the Interpretation of results and the limitations sections of the IFU associated with the plate type that is being read on The Wizard™ CompactDry™ Reader to ensure colonies are properly detected. Plates should be read immediately after recommended incubation times and allowed to incubate for the full recommended times to ensure adequate colony size and color development. Excessive incubation times may lead to the development of plate artifacts due to drying or color changes that could lead to poor detection.

Specifications

The Wizard™ CompactDry™ Reader Specifications

Part Code/Model #	CDR2
Dimensions W x D x H	10" x 8" x 12"
Dimensions W x D x H	25.4cm x 20cm x 30cm
Reading Speed	Approximately 5-6 seconds, dependent on the amount of colonies
Connections	USB Type A x 3
Operation Temperature Range	10 °C to 30 °C
Power	12 Volts DC x 4 Amps
Electrical Approval	12 Volts DC x 4 Amps
	Power Pack is UL, CSA, CE approved
Weight	25 lbs./ 11.34 kg
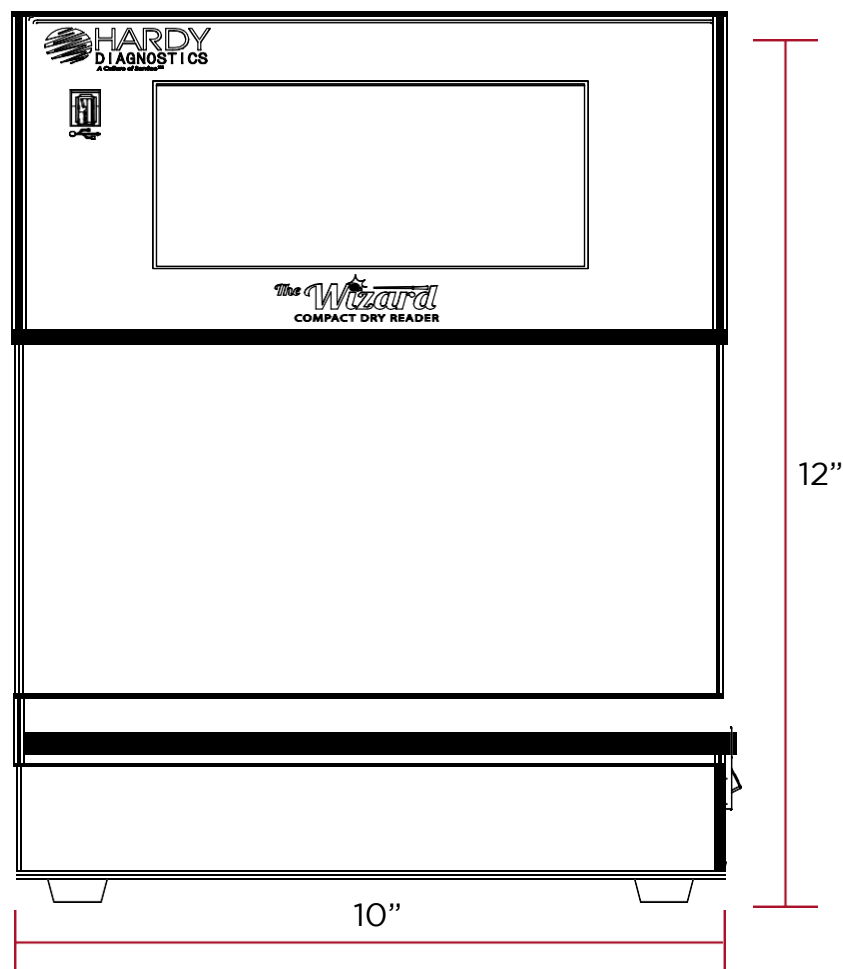
Warranty and Service

Warranty

When used in laboratory conditions and according to these operating instructions, Hardy Diagnostics warrants this product to be free from defects due to materials or workmanship for two (2) years from date of shipment. This warranty will be void if product has been modified or disassembled. Warranty is limited to repair or replacement, as deemed necessary by seller of product, including cost of freight to and from seller's repair location. Seller is not obligated to supply product on loan to buyer or its customers under the warranty. The liability of Hardy Diagnostics for any defective equipment during the warranty period shall be limited to the repair of defective equipment or replacement thereof without charge for shipping, parts, or labor.

Maintenance and Cleaning

The Wizard™ CompactDry™ Reader is designed to require minimal maintenance. If the unit requires cleaning of the exterior, unplug the unit and use a lightly dampened cloth to clean the metal areas. Use a nonabrasive cloth to clean the touch screen area. DO NOT USE HARSH CLEANING AGENTS, such as bleach or alcohol to clean any area of the equipment.

The best method to keep the interior area of the unit clean is to ensure that CompactDry™ plates are dry and free of debris before placing them into the unit. If the interior plate reading area of the unit requires cleaning, use a lint free cloth and a tongue depressor. Wrap the lint free cloth around the stick and slide through the unit. Do not force the item into the unit as it could damage the plate indexing system. The cleaning stick and cloth should slide freely through the plate bay. If this does not clean the plate reading area, dampen the cloth with water and repeat the process.

Service

For all service needs contact:
Hardy Diagnostics Technical Services at
800-266-2222, option 2
or TechService@HardyDiagnostics.com

Our Advantage

Hardy Diagnostics manufactures over 2,700 prepared culture media products and provides a complete selection of over 13,000 microbiology supply items. Founded in 1980, Hardy Diagnostics has grown to service over 10,000 microbiology laboratories within the United States and throughout the world.

• Quality Control Program

All of the products manufactured by Hardy Diagnostics are tested to the highest standards for quality and performance.

• ISO Certified

The Quality management system of the Hardy Diagnostics' California and Ohio manufacturing facilities has been certified to ISO 13485, a quality standard specifically for medical device manufacturers.

• Custom Product Manufacturing

Hardy Diagnostics is willing and able to manufacture products specific to your needs. Special container and formula requests are welcome. Simply contact your area Sales Representative.

• Two Manufacturing Plants

Hardy Diagnostics is the only culture media company with bi-coastal manufacturing plants that provide our customers with the additional security of product availability. In addition, nine distribution centers are strategically located throughout the United States.