Air Techniques INTERNATIONAL

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Operator Manual

iProbe Plus Scanning Probe

Change History

Table 1. Change History

Revision	Date	Remark
A	April 2024	Initial release of iProbe Plus Scanning Probe Operator manual
B	March 2025	Added Section 7 – Exporting to a Thermal Printer
C	August 2025	Updated Section 11 – Supporting Information

Contents

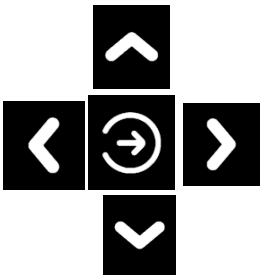
Section 1 - iProbe Plus Overview

The iProbe Plus is a direct replacement for the existing iProbe and does not require a firmware update to the 2i Base unit, provided the 2i Base unit firmware is at 4.6.1 or higher. This document will provide instructions on the proper use of the product.

1.1. Icons and Descriptions

Below is a list of icons and descriptions for each icon found on the Main and Scanning screens of the probe.

Icon	Description
	Saved Leak Scan Data Management Folder
	Actuate Upstream Valve
	Actuate Clear Valve
	Actuate Downstream Valve
	10-second Rewind Key
	Password Management/Date and Time Setup
	Enter Leak Scan Traceability IDs
	Return to Main Menu

Icon	Description
	Cancels Saving In-progress Leak Scan Test. No record will be kept.
	Begin Recording Leak Scan Test results as the scan is performed
	Menu Navigation and Enter Keys
	Pause Saving Leak Scan Data. Unit will be in Clear Mode.
	Stop: Press to Complete Leak Scan, data will be saved.
	Takes you to the scanning screen
	Alarm is muted. Only Auditory/vibratory alarm will be muted.
	Alarms are On, per the alarm settings

1.2. What's Included

Item #	Description	Quantity
1	iProbe Plus Scanning Probe with Large Color Touchscreen (p/n 9300538)	1
2	Screen Protector	1
3	Wrist Strap	1
4	Operator Manual	1
5	Pen with Stylus	1

NOTE: 9-pack replacement screen protectors are available, p/n 9300537.

Figure 1. What's included

1.3. iProbe Plus Specifications

Item	Characteristics
Screen Size/Type	4.3-inch Color Touchscreen
Data Output Format	PDF and CSV Files
Storage Capacity	Approx. 150,000 Scans

Section 2 - How to Set the Upstream Concentration

Select the Upstream concentration from the Main menu on the probe. The Upstream selection menu on the iProbe Plus is the same as the iProbe.

Step 1. Use Arrow keys to navigate to the desired Upstream selection option (Figure 2 - Figure 4).

Step 2. Press “Enter” key to proceed to the next screen.

NOTE

For the sub-screens, use the arrow keys and “Enter” key to navigate through the screens.

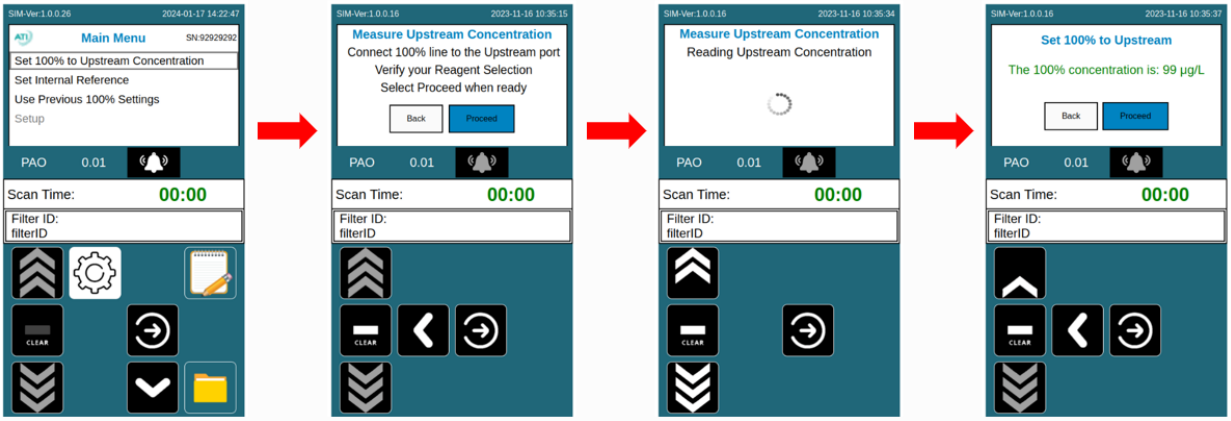


Figure 2. Set 100% Upstream concentration

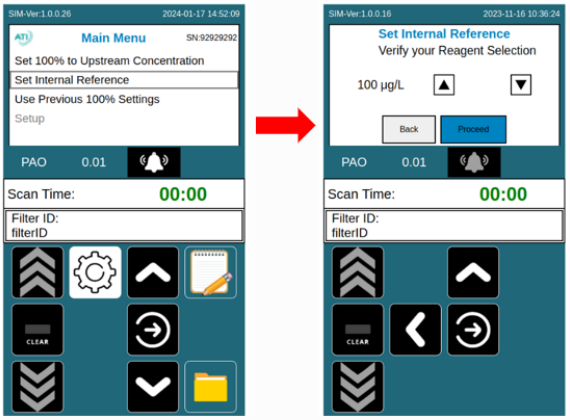


Figure 3. Use internal reference

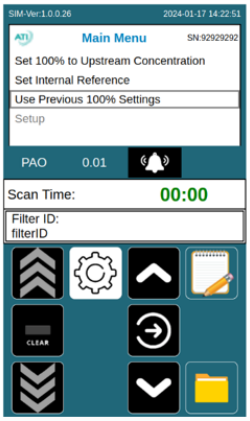


Figure 4. Use previous 100% setting

Scan QR code for detailed video instructions.

Section 3 - How to Set Password Protection and User Preferences

Users can enable password protection as an option on the iProbe Plus. The default password is “ATIIPROBEPLUS”.

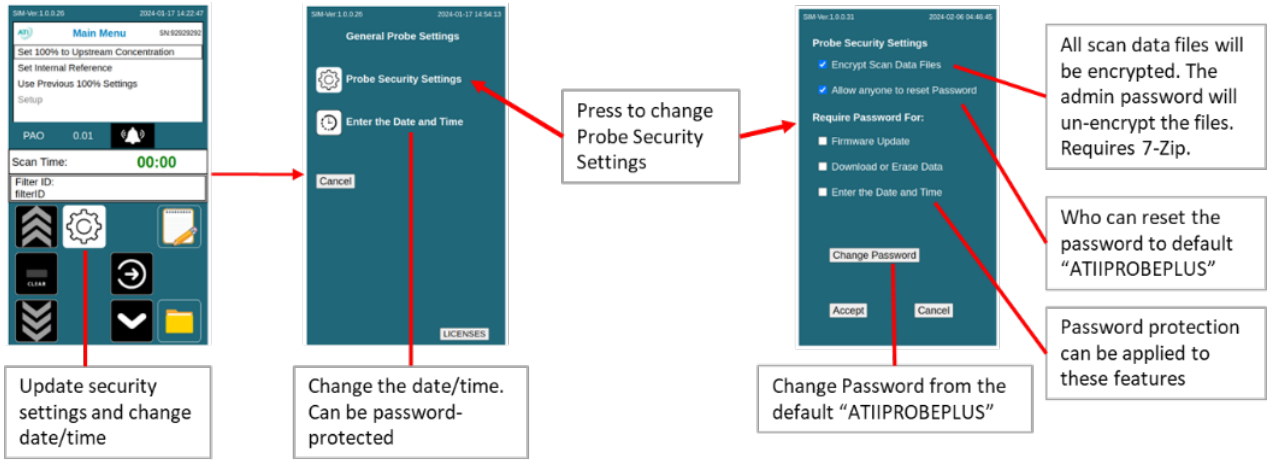


Figure 5. Enable password protection

3.1. Reset Password to Default “ATIIPROBEPLUS”

Step 1. Press the “Gear” key on the Main screen

Step 2. If Password is enabled, enter the password and then press the “Reset Password” key

a. If “Allow anyone to reset password” is selected in the Probe Security Settings page, then a password is not required to reset to the default

NOTE

The default password is “ATIIPROBEPLUS”

Scan QR code for detailed video instructions.

3.2. Need a Factory Password Reset?

If the password has been lost and the “allow anyone to reset a password” is not enabled, you must contact ATI or any authorized ATI Distributor for a factory password reset.

Step 1. Reach out to ATI or an authorized ATI Distributor

Step 2. You must provide the serial # of the iProbe Plus, found at the top of the screen (Figure 6)

Step 3. You will receive a one-time use reset file that can be installed onto the iProbe Plus via the USB port using a USB drive. The reset file must be the only file in the root directory of the USB drive.

Step 4. The password will be reset to “ATIIPROBEPLUS”

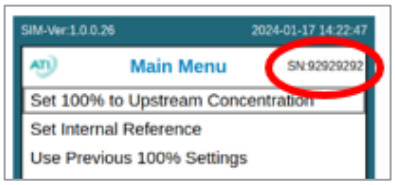


Figure 6. Serial number for factory password reset

Section 4 - How to Enter Filter Leak Scan IDs

Step 1. Filter IDs are entered in one of two ways:

- By pressing the Notepad key (Figure 7) or
- After pressing the green Play key (Figure 8) to start recording a leak test

Step 2. Enter the IDs using the pop-up keyboard (Figure 9) and then press “Save”.

Figure 7. Notepad key

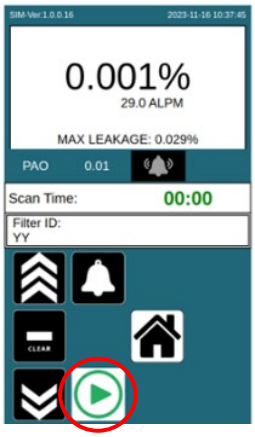


Figure 8. Play key

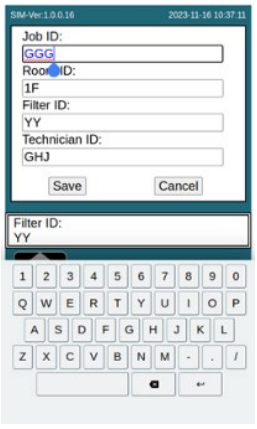


Figure 9. Pop-up keyboard

Scan QR code for detailed video instructions.

Section 5 - How to Perform and Save a Filter Leak Scan

Performing a filter leak scan test is straightforward. The user can perform a "quick" leak scan test that does not require customer inputs and does not save any data. The user can also perform a leak scan test that will be saved with required traceability IDs entered. Follow the steps below to save a leak scan.

The iProbe Plus incorporates the industries-only, patent pending, "10-Second Rewind" feature that allows the user to exclude the last 10 seconds of scanned data from when the "10-Second Rewind" key is pressed, plus the time it takes to press the "ok" key. This feature prevents accidental alarm events from being saved. The summary output data will not show any alarm events during this time, but will indicate the number of times the 10-Second Rewind key was pressed. The detailed PDF data file will display all saved scanned events, including those that were "excluded" for auditing purposes. See Figure 13.

5.1. Begin Saving a Leak Scan Test

Step 1. Enter Alarm Set-point and Reagent (this can only be done on the 2i Base unit)

Step 2. Set Upstream Concentration or Internal Ref from the Main menu (Section 2 - How to Set the Upstream Concentration)

Step 3. For a Quick Scan, press the Downstream key (Figure 10) to begin scanning. Data is not saved.

Step 4. To begin saving scans, press the green "Play" key (Figure 11)

Step 5. Confirm IDs (Section 4 - How to Enter Filter Leak Scan IDs)

Step 6. The unit is now saving leak scan data. See Figure 12 for details on how to Pause / Stop (Save) / Cancel scans.

Scan QR code for detailed video instructions.

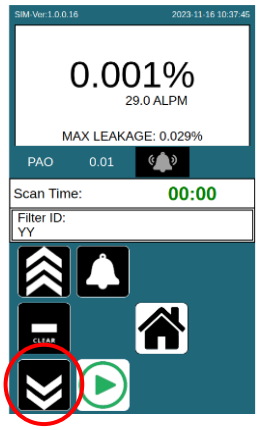


Figure 10. Downstream key

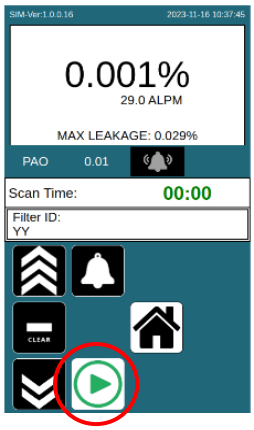


Figure 11. Begin recording

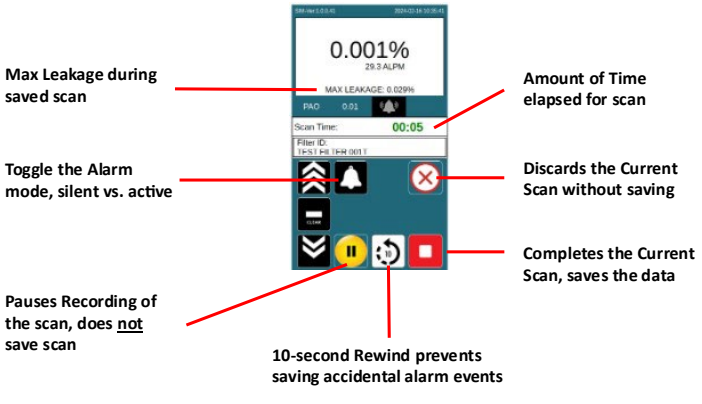
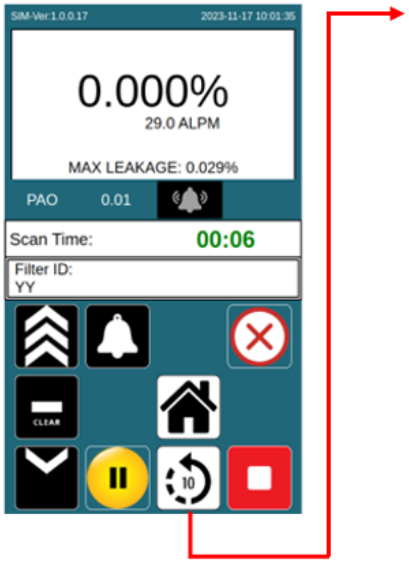


Figure 12. Key functions



Feature: Patent pending 10-second rewind function
User Benefit: Prevents saving accidental alarm events. The last 10 seconds of leak scan data, from the time the rewind button is pressed, will be excluded from the summary file but NOT the detailed file.

- The output file will indicate how many times this button was pressed

```
Model:                        2i Aerosol Photometer
Base Serial Number:           28584
Probe Serial Number:          99999912
Cal Due Date:                 2025-09-19
Current Date:                 2024-02-14
================================================================
Job ID:                       JOBABC
Room ID:                      ROOMDEF
Filter ID:                    001B
Tech ID:                      GPATEL
Setup:                        Previous
Reagent:                      PAO
Actual Concentration:         100
Rewind count:                 1
Scan Start Time:              2024-02-14, 14:32:54.681
Scan End Time:                2024-02-14, 14:33:23.160
Effective Scanning Time: 0000-00-00, 00:00:13.493
================================================================
Leakage Alarm % Value:    0.01
Max leakage % Value:      0.0171
Alarm_Exceeded:           YES
================================================================
Scan Comments:      "TEST2"
================================================================
2024-02-14 14:33:19.320 0.0159 FAILED
2024-02-14 14:33:19.474 0.0171 FAILED

================================================================
```

Figure 13. 10-second rewind feature

5.2. Change Alarm Type

The iProbe Plus allows the user to mute and change the alarm settings (visual, vibratory, audible). The iProbe Plus does not allow changing the Alarm Set-point, which must be done on the 2i Base unit.

Step 1. At the Main menu, use the Arrow keys to navigate to the “Alarm” icon (Figure 14)

Step 2. Use the Arrow keys to select/de-select the desired alarm types to enable (Figure 15)

Step 3. To Mute/Unmute the alarm, press the Alarm key from the Main menu (Figure 16)

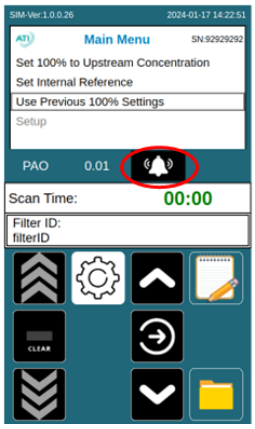


Figure 14. Alarm icon on Main menu

Figure 15. Alarm types

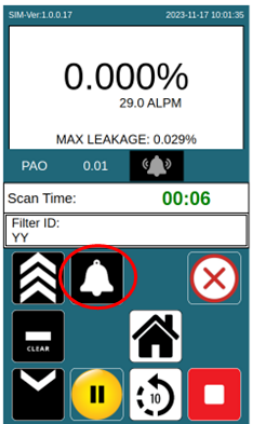


Figure 16. Alarm key to mute/unmute

Scan QR code for detailed video instructions.

Section 6 - How to Export and/or Delete Saved Filter Scan Files

Saved scan leak files on the iProbe Plus can only be offloaded via a USB-A memory stick. The iProbe Plus cannot be directly connected to a computer for data output. The user must select the date range of the scan files they want to offload. Offloading the saved scan data can be password-restricted.

Step 1. Press the File Manager key (Figure 17)

Step 2. A USB-A memory stick must be inserted into the unit. If it is not inserted properly, the screen will display "External Storage NOT Present" (Figure 18) or "External Storage Present" once the USB is recognized (Figure 19)

Step 3. Select the desired date range for copying or deleting the saved scan data

- Or select "Perform this action on ALL files", then all files residing on the unit will be either copied or deleted, date range not required.

Step 4. Press Proceed

NOTE

This step will not delete the files on the iProbe Plus. User must select "Delete Internal Files" to delete files from the iProbe Plus.

Scan QR code for detailed video instructions.

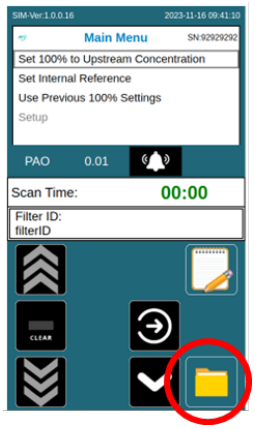


Figure 17. File manager key

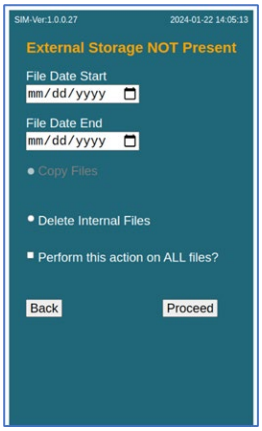


Figure 18. External storage not present

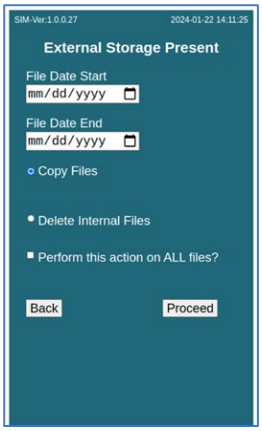


Figure 19. External storage present

6.1. Password Protected Data Files

If the leak scan data files are password protected (Section 3 - How to Set Password Protection and User Preferences), then the output files will be in a password-protected .zip file. The user **must** have 7-ZIP (a free zip program, www.7-zip.org) to unzip the files. The password to unlock the files is the last password used at the time the files were offloaded from the iProbe Plus. The steps for offloading files from the iProbe Plus are the same as above.

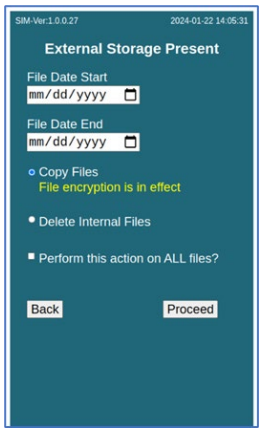


Figure 20. File encryption is in effect

Scan QR code for detailed video instructions.

A sample 7-ZIP file is shown below.

Figure 21. Sample 7-ZIP file

Double click on the .zip file, then press the extract key.

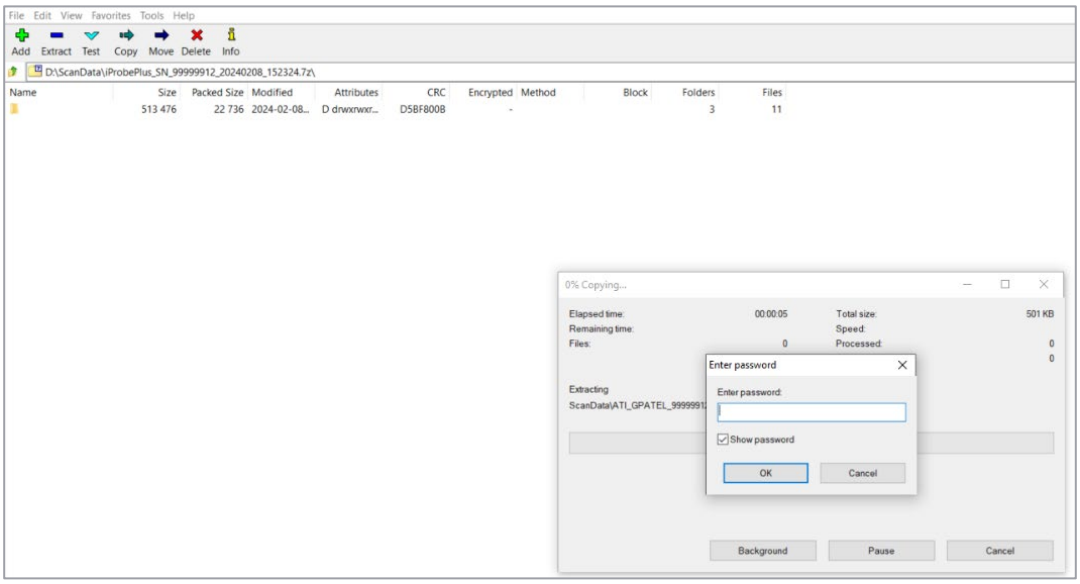


Figure 22. Extracting data

The iProbe Plus outputs two .PDF files for each filter leak test that is saved (summary and detailed), see Figure 24 and Figure 25. In addition, it outputs a .CSV (Figure 26) for all filter leak scans with the same iProbe Plus Serial Number, Job ID, and Room ID. All saved scan data with these IDs are grouped into one, easy-to-manage.CSV file.

NOTE

The Comma-Separated Values (CSV) file is a text file format that uses commas to separate values, and newlines to separate records. The file can be imported into Excel or other spreadsheet programs.

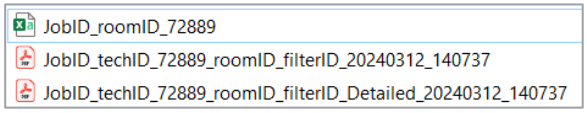


Figure 23. Output files in .PDF and .CSV file formats

```
Model:                  2i Aerosol Photometer
Base Serial Number:     73502
Probe Serial Number:    72889
Probe Type:             iProbe Plus
Probe Firmware Version: 1.0.0.43
Probe System Version:   1.0.0.1
Cal Due Date:           2026-03-04
Current Date:           2024-03-12
================================================================================
Job ID:                 JobID
Room ID:                roomID
Filter ID:              filterID
Tech ID:                techID
Setup:                  Internal Ref
Reagent:                PAO
Actual Concentration:   -
Upstream Concentration: 95
Rewind count:           1
                        YYYY-MM-DD
Scan Start Time:        2024-03-12, 15:51:40.268
Scan End Time:          2024-03-12, 15:52:11.976
Effective Scanning Time: 0000-00-00, 00:00:20.397
================================================================================
Leakage Alarm % Value:  0.0009
Max leakage % Value:    0.0014
Alarm_Exceeded:         YES
================================================================================
Scan Comments:     "REST"
================================================================================


Operator Signature: _____________________________   Date: _____________


Witness Signature: _____________________________   Date: _____________


================================================================================
2024-03-12 15:51:40.340 0.0010 FAILED
2024-03-12 15:51:40.738 0.0010 FAILED
2024-03-12 15:51:41.140 0.0010 FAILED
2024-03-12 15:51:41.791 0.0010 FAILED
```

Figure 24. Summary .PDF file only lists alarm events

```
Model:                  2i Aerosol Photometer
Base Serial Number:     73502
Probe Serial Number:    72889
Probe Type:             iProbe Plus
Probe Firmware Version: 1.0.0.43
Probe System Version:   1.0.0.1
Cal Due Date:           2026-03-04
Current Date:           2024-03-12
================================================================================
Job ID:                 JobID
Room ID:                roomID
Filter ID:              filterID
Tech ID:                techID
Setup:                  Internal Ref
Reagent:                PAO
Actual Concentration:   -
Upstream Concentration: 95
Rewind count:           1
                        YYYY-MM-DD
Scan Start Time:        2024-03-12, 15:51:40.268
Scan End Time:          2024-03-12, 15:52:11.976
Effective Scanning Time: 0000-00-00, 00:00:20.397
================================================================================
Leakage Alarm % Value:  0.0009
Max leakage % Value:    0.0014
Alarm_Exceeded:         YES
================================================================================
Scan Comments:     "REST"
================================================================================


Operator Signature: _____________________________   Date: _____________


Witness Signature: _____________________________   Date: _____________


================================================================================
2024-03-12 15:51:40.340 0.0010 FAILED
2024-03-12 15:51:40.540 0.0006
2024-03-12 15:51:40.738 0.0010 FAILED
2024-03-12 15:51:40.940 0.0008
2024-03-12 15:51:41.140 0.0010 FAILED
```

Figure 25. Detailed .PDF file lists all events, pass and fail

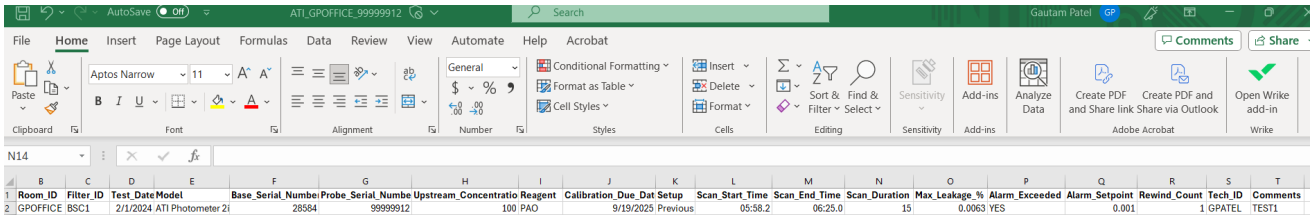


Figure 26. Sample .CSV output file

6.2. If the “External Storage NOT Present” message remains after inserting the USB, then the USB needs to be formatted to the NTFS File System.

6.2.1. Formatting a USB to the NTFS File System.

To format a USB to the NTFS File System, follow the steps below:

Step 1. Install the USB onto your computer, right-click on the USB drive and select “Format” (Figure 27)

Step 2. Select NTFS for File System and set the volume label to “EXTERNAL” (Optional) (Figure 28)

Step 3. Press Start

Step 4. Press OK (Figure 29)

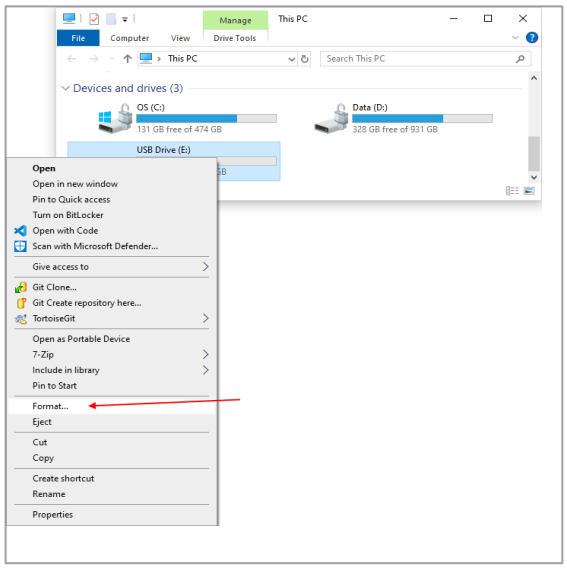


Figure 27. Right-click on USB drive and select “Format”

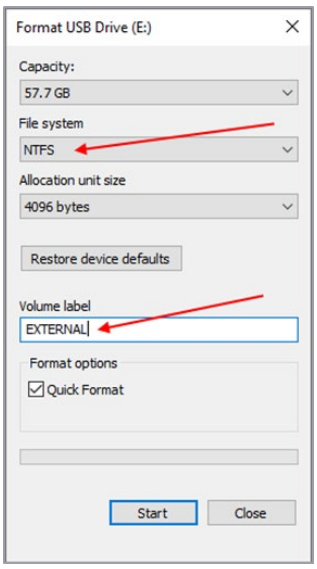


Figure 28. Select NTFS for file system and set volume label to “EXTERNAL”

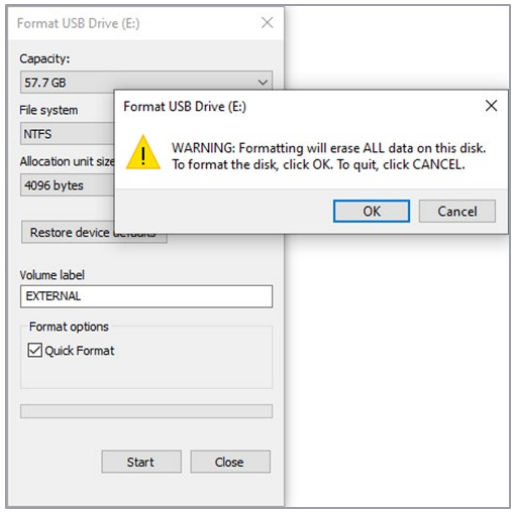


Figure 29. Press ‘ok’ to format the disk

NOTE

This action will erase the contents of the drive.

Section 7 - Exporting to a Thermal Printer

The iProbe Plus allows the user to print leak scan data directly to a thermal printer. ATI recommends using the ATI Thermal Printer, p/n 9300249.

The procedure for printing is as follows:

Step 1. Perform a "Saved leak scan test." See section 5.1.

Step 2. After a scan has been completed, the scan comments field will appear. After entering comments, the user will have the option to either Save the scan or Save/Print the scan (Figure 30). If Save/Print is selected, the scan leak data will be saved and sent to the thermal printer (Figure 31).

Step 3. The output from the thermal printer is the same as the saved summary data of the save leak scan (Figure 32)

Step 4. Once the printout is complete, the user will have the option to press "OK" to proceed to the Main screen or "Print" to re-print the scan (Figure 33)

NOTE

Only the current saved scan results can be sent to the thermal printer via the iProbe Plus. To print previously saved test results, the user must download the results from the iProbe Plus (see Section 6 - How to Export and/or Delete Saved Filter Scan Files) to a computer that is connected to a printer.

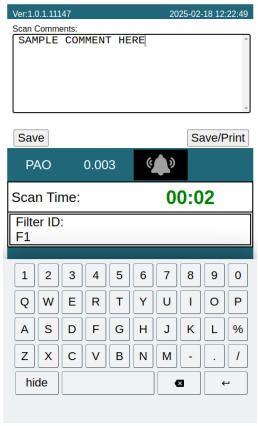


Figure 30. Save scan or Save/Print scan

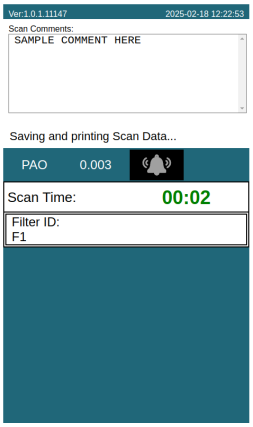


Figure 31. Save/Print scan selected

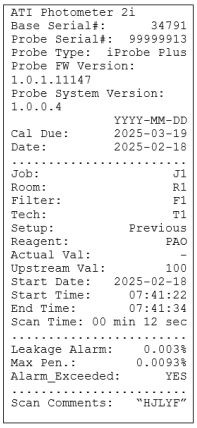


Figure 32. Output from thermal printer

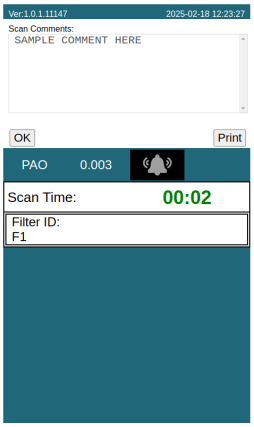


Figure 33. Return to Main screen or re-print scan

Section 8 - Updating Firmware

ATI will occasionally release new firmware for the iProbe Plus that will add new features and/or address issues in the current firmware. The current firmware version installed on the iProbe Plus is displayed on the top left corner of the screen.

The procedure for updating firmware is as follows:

Step 1. Download the firmware file onto a USB-A memory stick. The firmware file must be the only file in the root directory of the USB drive.

Step 2. Install the USB drive onto the iProbe Plus

Step 3. Follow on-screen instructions

Step 4. The file can be obtained from ATI, an authorized ATI Distributor, or downloaded from https://www.atitest.com/products/2i-iprobe-plus/.

Figure 34. Firmware updating screen

Section 9 - Troubleshooting

9.1. Case 1: iProbe Plus is Out of Sync with 2i Base Unit

If the 2i Base unit is in the Reagent Selection, Alarm Setpoint, or Setup Screen, then the iProbe Plus will display the message shown in Figure 35, this is NORMAL. If the 2i Base unit is in the Main menu screen and the iProbe Plus is not displaying the Main screen, then they are out of sync. These issues can be resolved in one of two ways:

Step 1. Unplug the electrical umbilical connection from the iProbe Plus, wait for the iProbe Plus to shut down, then re-attach the electrical connection. After the iProbe Plus has restarted, the probe screen should be in sync with 2i Base unit.

Step 2. If #1 doesn't resolve the issue, restart the 2i Base unit by turning it off, wait 30 seconds after the iProbe Plus screen has shut down, and then turn the 2i Base unit on again.

9.2. Case 2: Defective Umbilical Connection

The iProbe Plus may also become out of sync with the 2i Base unit if communication between the 2i Base unit and the iProbe Plus is disrupted. This may occur when there is a defective umbilical connection, which is a less common issue. If this occurs, unplug and then reconnect the umbilical cable.

NOTE

If the problem persists, contact ATI Customer Support for assistance. A new cable may be required.

9.3. The iProbe Plus Displays an "External Storage Not Present" Message Even Though a USB is Inserted

Step 1. Wait a few seconds for the unit to recognize the USB, if more than 30 seconds have passed, proceed to Section 6.2.

Section 10 - FAQs

How Do I Change the Reagent and Alarm Set-point?

The Reagent and Alarm Set-point can only be changed from the 2i Base unit. The iProbe Plus will sync with the Base unit once completed. When the 2i Base unit is in the Reagent or Alarm Set-point screen, the iProbe Plus screen will display the following (Figure 35), until the 2i Base unit returns to the Main menu screen. The best practice is not to have the iProbe Plus plugged in to the 2i Base unit when changing the Reagent or Set-point.

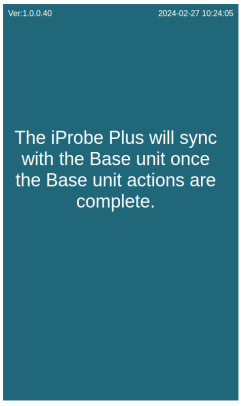


Figure 35. Waiting for 2i unit to return to Main menu

The Touchscreen Doesn't Work on the Main Screen?

On the Main menu screen, the user must use the Arrow and Enter keys for navigation and menu selection, same as on the 2i Base unit. For all other screens, the touchscreen will operate as expected.

How Do I Change the Date and Time?

- The date and time are not synchronized (synched) between the iProbe Plus and the 2i Base unit. The user can manually set the date and time on both. The data output from the iProbe Plus via the USB will display the date and time set on the iProbe Plus. Data that is output from the 2i will have the date and time that was set on the 2i. It is up to the user to sync the date and time on both units. The date/time can be password protected on the iProbe Plus, this action does not prohibit an unauthorized user from changing the date and time on the 2i Base unit.
- The date and time can be changed on the iProbe Plus through the "Gear" icon.
- The date and time can be changed on the 2i Base unit through the setup screen. During this time, the screen shown in Figure 35 will be displayed on the iProbe Plus.

Scan QR code for detailed video instructions.

Why is the "Setup" Screen Grayed Out on the iProbe Plus?

All the "Set-up" functions found on the 2i Base unit must be performed on the 2i Base unit. The iProbe Plus does not support this functionality. When the user is in the "Setup" screen on the 2i Base unit, the screen shown in Figure 35 will be displayed on the iProbe Plus until the user returns to the Main menu. The best practice is not to have the iProbe Plus plugged into the 2i Base unit when performing this function.

Section 11 - Supporting Information

11.1. Warranty

LIMITATION OF WARRANTY

Air Techniques International, hereinafter referred to as ATI, warrants the equipment purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purpose for which it is designed, for a period of (1) one year from the date of shipment. ATI further warrants that the equipment will perform in accordance with the technical specifications accompanying the formal equipment offer.

ATI will repair or replace any such defective items that may fail within the stated warranty period, PROVIDED:

- That any claim of defect under this warranty is made within thirty (30) days after discovery thereof and that inspection by ATI, if required, indicates the validity of such claim to ATI's satisfaction.
- That the defect is not the result of damage incurred in shipment to or from our factory.
- That the equipment has not been altered in any way, whether as to design or use, whether by replacement parts not supplied or approved by ATI, or otherwise.
- That any equipment or accessories furnished but not manufactured by ATI, or not of ATI design, shall be subject only to such adjustments as ATI may obtain from the supplier thereof.

ATI's obligation under this warranty is limited to the repair or replacement of defective parts with the exception noted above. If the equipment includes a scattering chamber, ATI's warranty does not extend to contamination of the scattering chamber by foreign material.

At the discretion of ATI, any defective equipment that fails within the warranty period shall be returned to ATI's factory for inspection, properly packed with shipping charges prepaid. No equipment shall be returned to ATI without prior issuance of a return authorization by ATI.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by ATI and the foregoing warranty shall constitute the Buyer's sole right and remedy. In no event does ATI assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of ATI products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

SERVICE POLICY

If the unit is defective or not working properly, contact ATI Customer Service to obtain a return authorization. See Section 11.4 Contacting Air Techniques International.

11.2. Compliance

The iProbe Plus Scanning Probe complies with the following standards:

Contact ATI for the Certificate of Conformity.

11.2.1. For Customers in Canada

Regulatory Information

NOTE

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

11.2.2. For Customers in the USA

Regulatory Information

NOTE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

• This device may not cause harmful interference

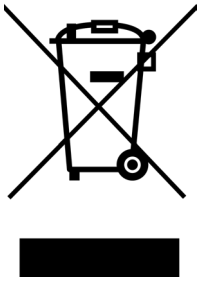
• This device must accept any interference received, including interference that may cause undesired operation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the

interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio or television technician for help

11.3. Disposal of Old Electrical & Electronic Equipment



This product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources.

For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the Company where you purchased this equipment.

11.4. Contacting Air Techniques International

For Technical or Application Questions

If you experience any difficulty setting up the instrument or have technical/application questions, please contact ATI via phone or email.

For Customer Service

If the instrument is not operating properly, or if you are returning the instrument for service, please contact ATI via phone or email.

Customer Service will need this information when you call:

- iProbe Plus serial number (located on the back of the unit)
- Purchase order number (unless under warranty)
- Billing address
- Shipping address
- Purchasing point of contact
- Technical point of contact
- Preferred return shipping carrier

Use the original packing material to return the instrument. If you no longer have the original packing material, you can order it from ATI or use sufficient packing material, so the unit is not damaged during shipping.

Corporate Headquarters (USA)
11403 Cronridge Drive
Owings Mills, MD 21117 USA
phone: +1 (410) 363-9696
email: info@ATItest.com
Hours: Mon-Fri, 8:30 AM – 5:00 PM EST

EMEA Headquarters (UK)
4 Campus Five
Letchworth Business Park
Letchworth Garden City,
Hertfordshire UK SG6 2JF
phone: +44 (0) 1462 676446
email: salesUK@ATItest.com
Hours: Mon-Fri, 8:30 AM – 5:00 PM GMT

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Air Techniques INTERNATIONAL

Part Number: IPROBE PLUS-L1M **www.ATItest.com**