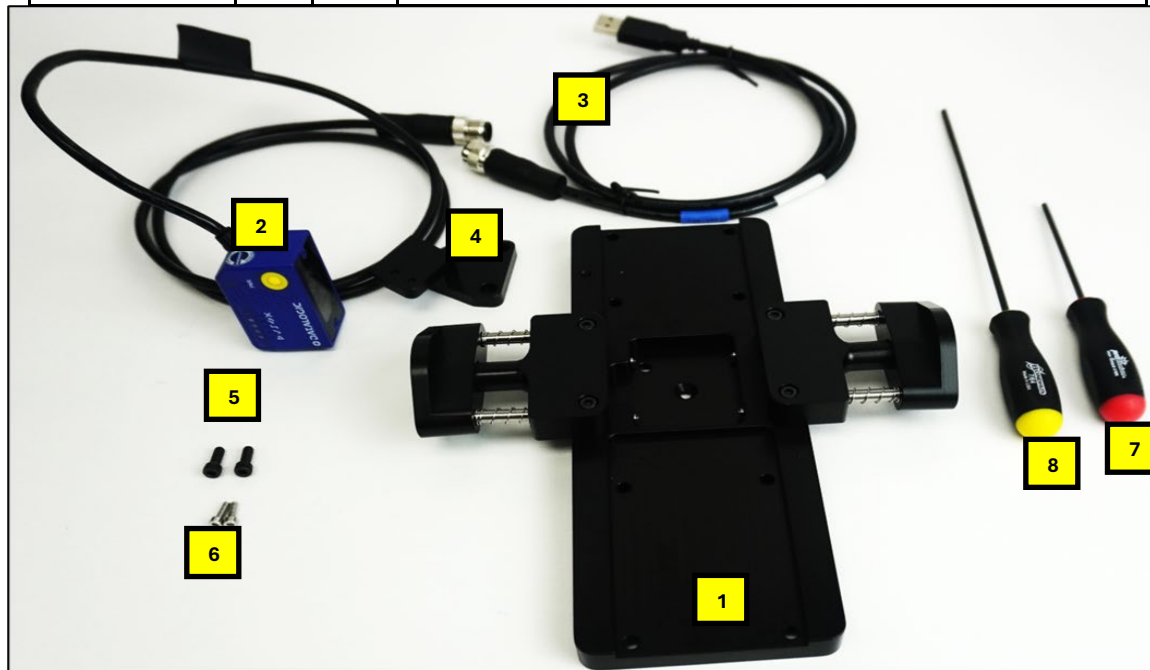


Product Specification and Usage

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner Assembly (P4390)

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

GEX P/N	FIND	QTY	DESCRIPTION
P4330	1	1	Evolution Base Plate
P4390	2	1	120 Matrix Scanner
N/A	3	1	USB Converter Cable
P4342	4	1	Barcode Scanner Mount
N/A	5	2	Screws (6-32 x 3/8 Cap Screws)
N/A	6	2	Screws (2.5mm-45x8 S/S, Cap Screws)
N/A	7	1	Hex Driver Tool (5/64")
N/A	8	1	Hex Driver Tool (7/64")



Work Process Legend:

Verify



Work Content





Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

1.0 PURPOSE:

To provide instructions for installing the GEX B3 120 Matrix Scanner and Mount, installing the EVO Baseplate into the sample cavity and troubleshooting guide for adjusting focus dial setting and the gain and exposure time setup configuration.

Section 1: Product Specifications and Product Description

Section 2: Installation of the GEX B3 120 Matrix Scanner and Mount

Section 3: Installation of the EVO Base plate in the EVO Spectrophotometer Sample Compartment

Section 4: Setting up the Matrix 120 Scanner for use with GEX DoseControl® software

Section 5: (Part A) Troubleshooting Guide for adjusting the Focus Dial Setting of the Matrix Scanner

Section 5: (Part B) The Gain and Exposure Time Setup Configuration

2.0 DESCRIPTION:

The Datalogic Matrix 120 Barcode Scanner is a component of the DoseControl Dosimetry System. It is mounted inside either the Thermo Evolution OnePlus Spectrophotometer sample compartment using a specially designed bracket and connected to the dosimetry workstation PC with a USB interface cable.

3.0 APPLICATION:

The device is capturing or verifying the sample ID at the time of measurement using the barcode ID for certain models of B3 Dosimeters, as part of the DoseControl Dosimetry System. For the DoseControl® dosimetry system, the Matrix scanner feature is appropriate for 1 dosimeter/pouch (1 absorbance count) applications.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

4.0 SPECIFICATIONS:

PRODUCT DIMENSIONS (Approx.)	PACKAGING DIMENSIONS (Approx.)	PRODUCT WEIGHT
4.5 cm (L) x 2.9 cm (W) x 2.4 cm (H) (1.8" L x 1.1" W x 0.9" H)	12.7 cm (L) x 12.7 cm (W) x 7.62 cm (H) (5.0 in L x 5.0 in W x 3.0 in H)	0.8 lbs. (0.4 kg)
MATERIAL	Cast aluminum housing	
COLOR	Blue	
PACKAGING	Manufacturer’s cardboard box and wrapped in bulk packaging protection and prevent movement inside the product box during transport. A soft lens cleaning wipe is included	

4.1 Calibration:

None is required.

4.2 Required Software:

The Matrix 120 Barcode Scanner requires a USB Driver and Datalogic, DL.CODE Software, (Published by Datalogic) to be installed on a PC (Windows 10 OS PC or higher). The Matrix integrates with the GEX DoseControl® software, (See Section 8).

4.3 Matrix 120 Barcode Scanner Focal Length Dial Setting:

Matrix scanner settings are pre-set by GEX for use in the Evolution spectrophotometer. Do not change the settings unless instructed to do so by GEX support.

4.4 Configuration Setting:

The Matrix scanner is pre-configured by GEX for use with the GEX DoseControl dosimetry system. Do not change the configuration unless instructed to do so by GEX support (or if you are using the Matrix for other applications).

4.5 Maintenance:

4.5.1 The barcode scanner must be installed in a location where it will not be exposed to excessive dust or other particulate matter.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

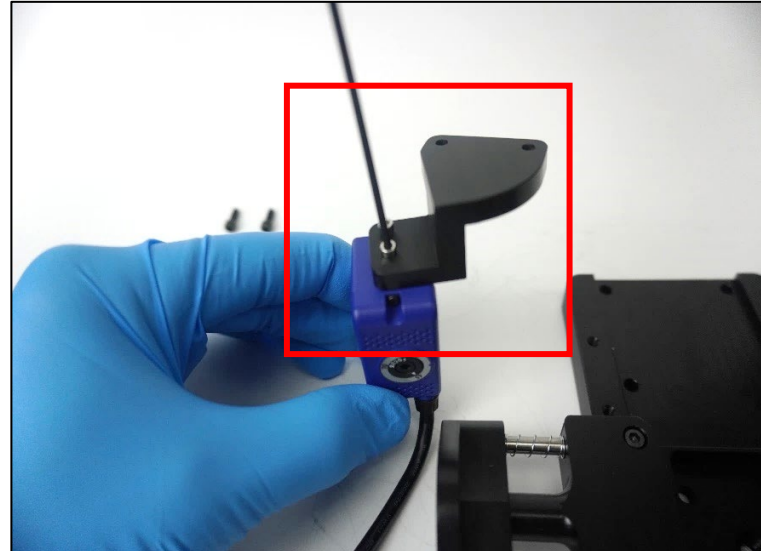
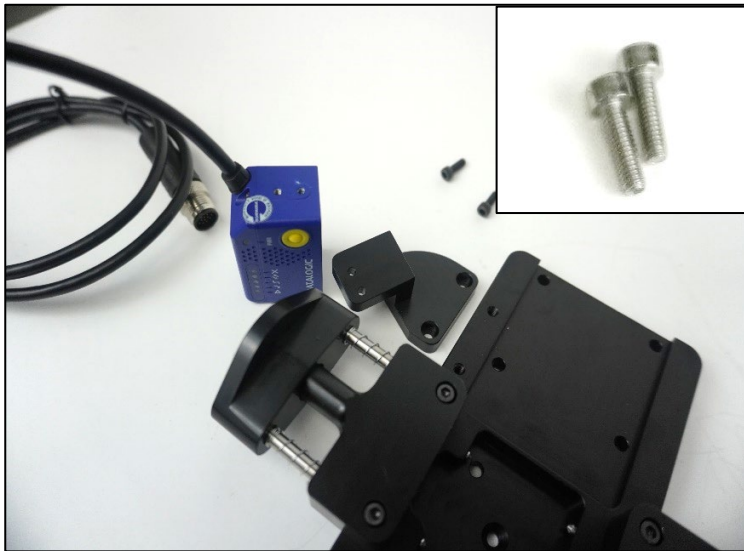
4.5.2 The barcode scanner must be cleaned as part of a preventive maintenance program at a frequency dependent on the level of cleanliness of the area. Any accumulated particulate can be removed using compressed air, and any smudges on the lens may be removed with a clean, soft wipe.

4.5.3 Avoid dropping or physically damaging the scanner. If damage occurs, verify performance, and contact GEX Customer Support at support@gexcorp.com for assistance.

4.6 Storage:

4.6.1 Store the device in a cool and dry area.

5.0 Installation of the GEX B3 120 Matrix Scanner and Mount (Section 2)

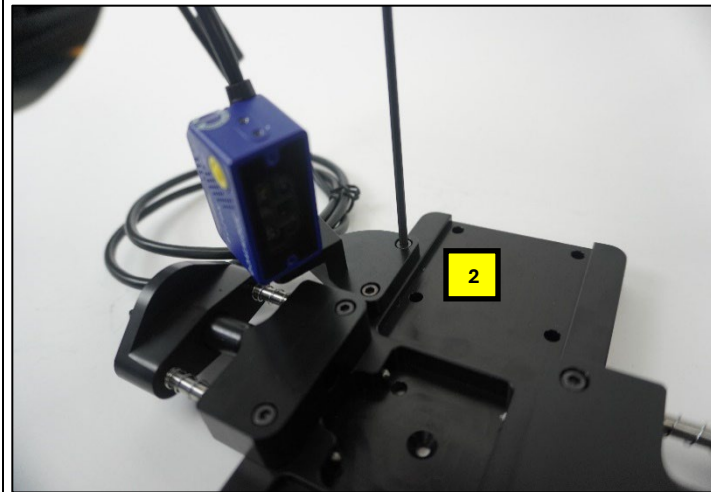
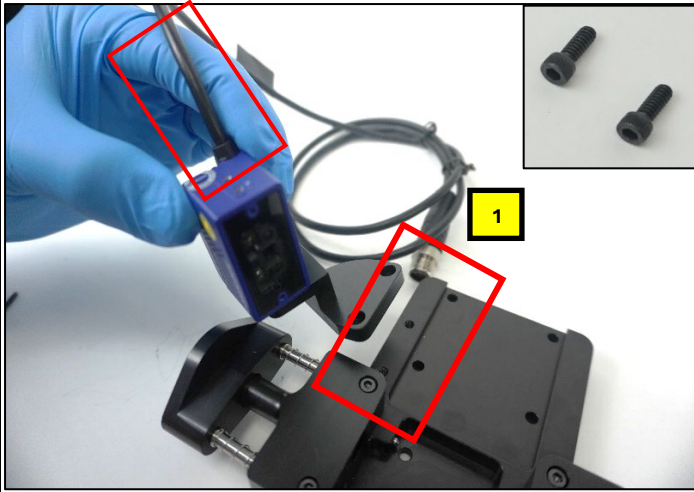


1. Attach the Datalogic Matrix120 Barcode Scanner to the Evolution Matrix Barcode Scanner Mount using the provided screws and secure with a 5/64" screwdriver.

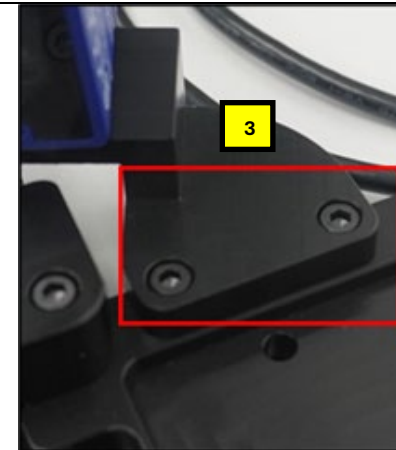


Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

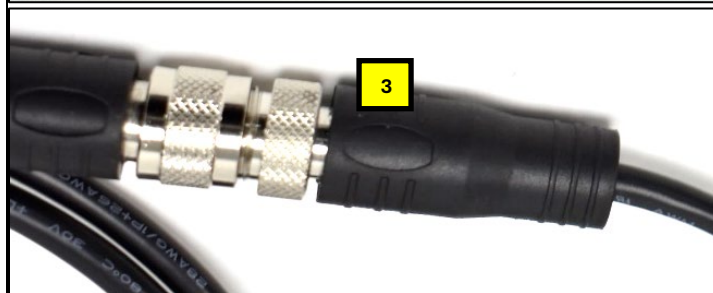
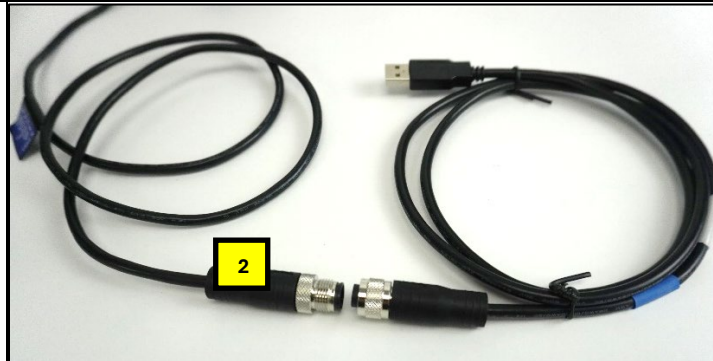
1. Attach the Datalogic Matrix120 Barcode Scanner Mount to the Evolution base plate using the provided screws and secure with a 5/64" hex driver.



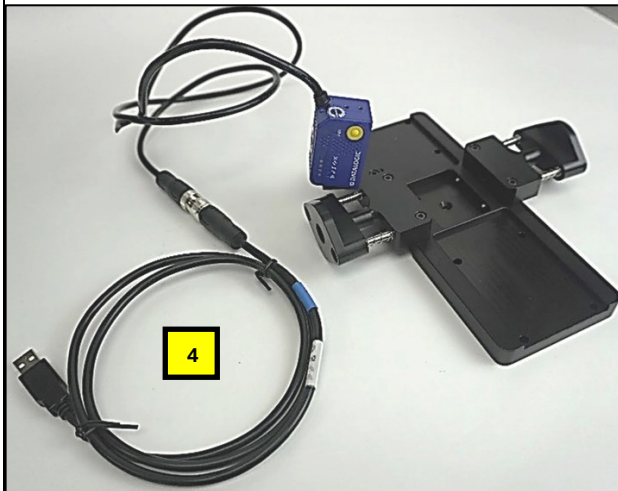
1. Attach the Datalogic Matrix120 Barcode Scanner Mount to the Evolution base plate using the provided screws and secure with a 5/64" hex driver.



Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)



1. Connect item #3 USB Converter Cable to item #2, 120 Matrix Scanner Cable.



Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

1. Unbox the Matrix 120 Barcode Scanner and visually inspect for damage.
2. If damage occurs, verify performance, and contact GEX Customer Service support@gexcorp.com for assistance.

IMPORTANT: Do not adjust the Matrix Scanner focus dial setting and software configuration file.

IMPORTANT: GEX has preset the Matrix Scanner focus dial settings for the EVO prior to shipping.

IMPORTANT: Ge has pre-loaded the scanner with the DoseControl software “config” file for the EVO gain and exposure time setup configuration prior to shipping.

3. If the need arises where it is necessary to adjust the Matrix Scanner focus dial setting and/or the gain and exposure time setup configuration, refer to the troubleshooting guide below.



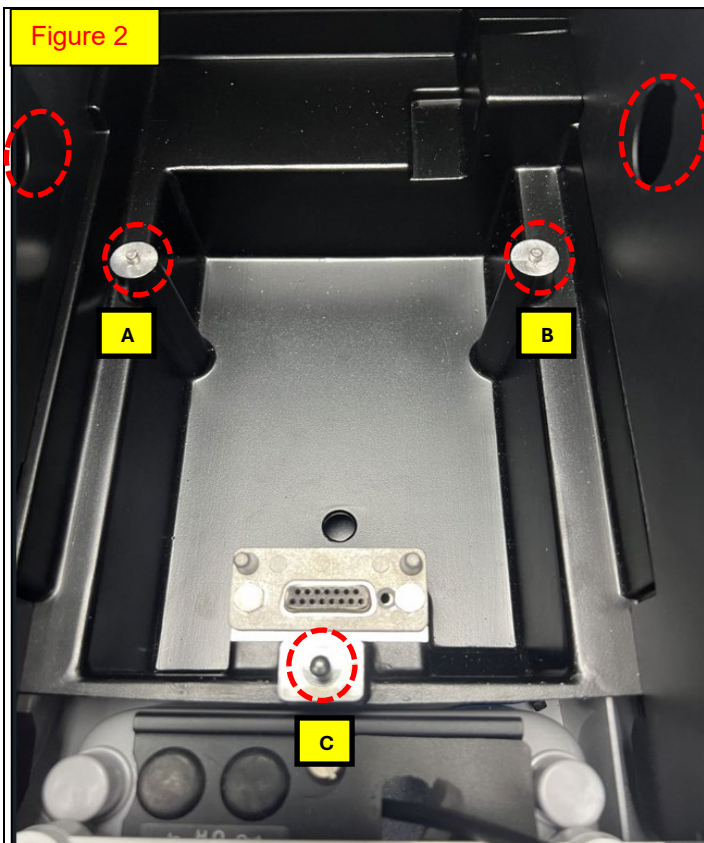
Figure 1

NOTE:

Figure 1 is the complete assembly (P4390) when ordered, (the matrix scanner and mount are attached to the base plate by GEX prior to shipment)

Inserting the base plate assembly into the EVO Sample Compartment.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)



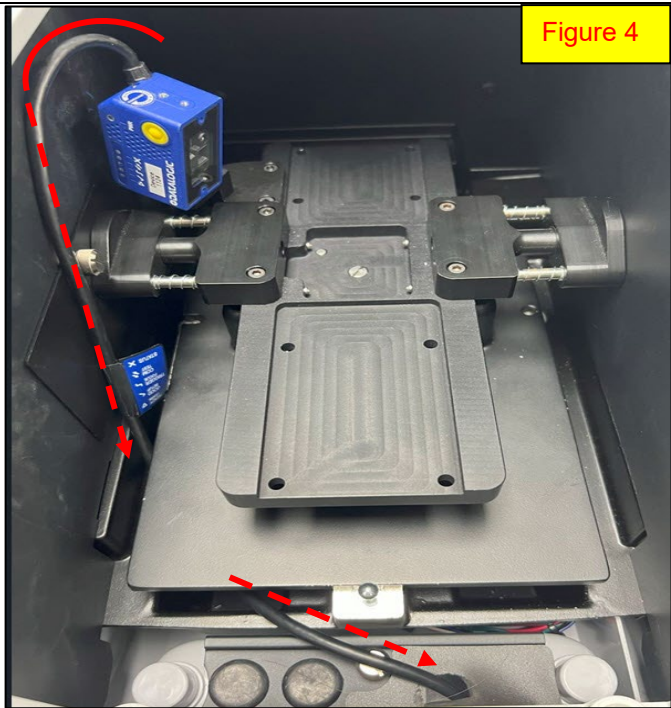
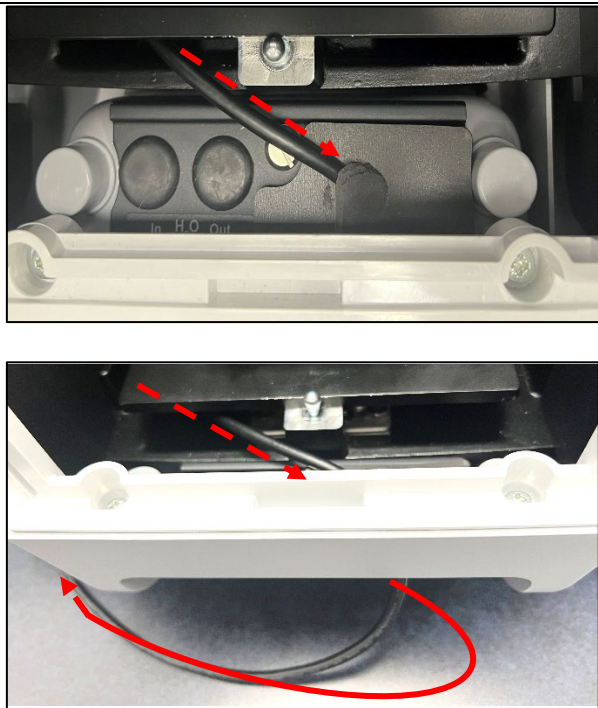
1. Carefully insert the baseplate assembly from **Figure 1** into the EVO sample compartment using the two(2) registration pins (A & B) as a guide. Push down to secure the plate against the front slip-pin (C) (**See Figure 2**).



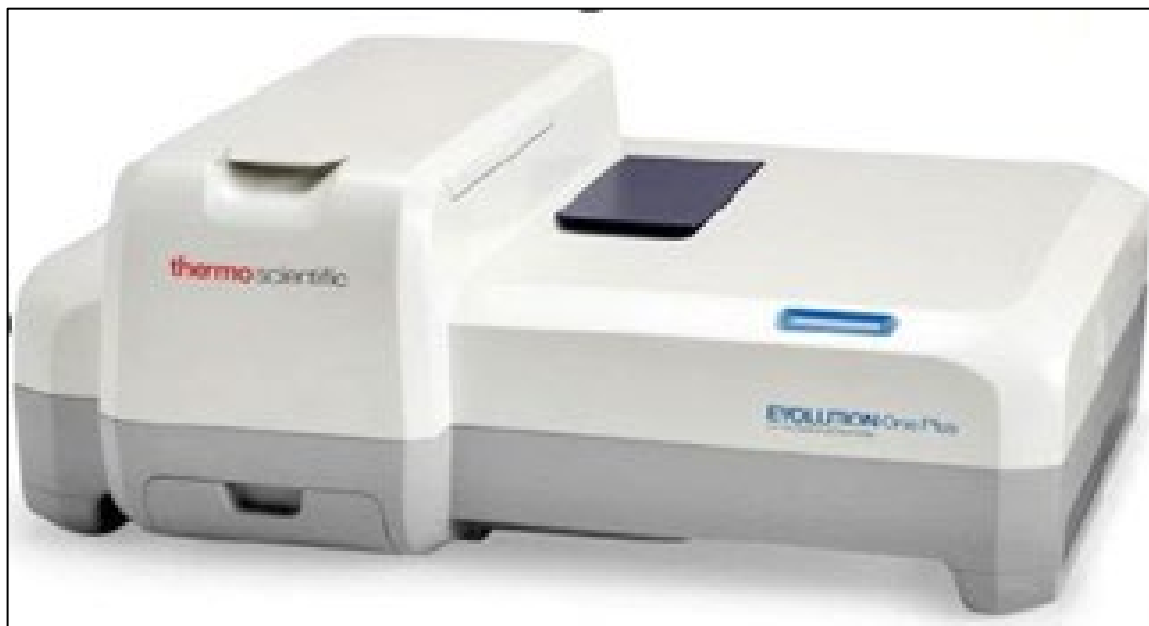
2. Ensure the spring-loaded beam tubes fit flush against the walls (**See Figure 3**).

NOTE: Refer to GEX Document 100-159 for complete instructions on lining up the locking pins and securing the baseplate into the EVO sample chamber.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

	Direction for routing the 120 Matrix Scanner Cable
	
<p>2. Route the scanner cable under the EVO standard baseplate and to the front of the sample compartment through the flexible foam opening as seen in Figures 4 & 5.</p> <p>NOTE: Follow the instructions provided in the product sheet to install the holder (GEX GB3, DoseStix, and/or WINdose) to be inserted and secured in and out of the P4330 EVO Baseplate without the use of any tools.</p> <p>Evolution Baseplate and Dosimeter Holder System (GEX Document 100-159).</p>	

Section 4: DoseControl Software Installation:



Evolution OnePlus Spectrophotometer

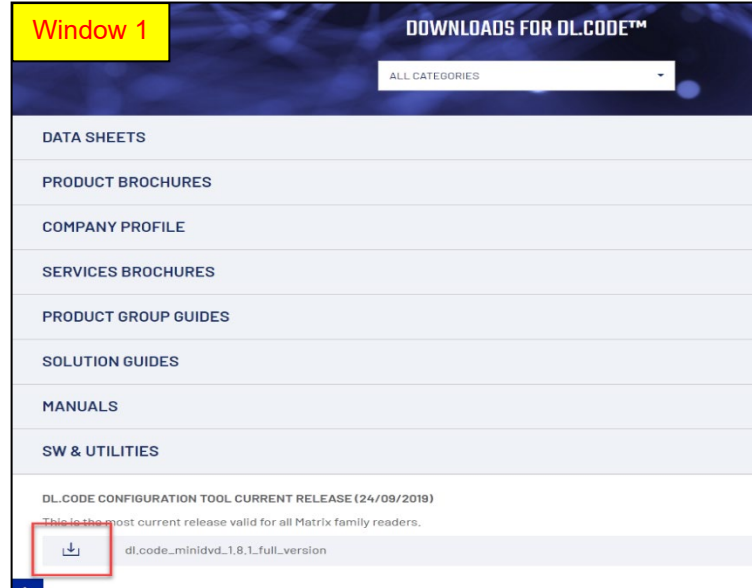
NOTE: To use the Matrix 120 Barcode Scanner with the GEX DoseControl Dosimetry System, you must install the Datalogic DL.CODE software with the USB Driver for the Matrix 120.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)


Section 4: DoseControl Software Installation:


1. Download the GEX-supported release (version 1.8.1 or higher) of the DL.CODE software from the [Datalogic website](#):
2. Click or scroll to Downloads.
3. Expand SW & Utilities, find, and click the download link for version 1.8.1 (or higher).

Window 1

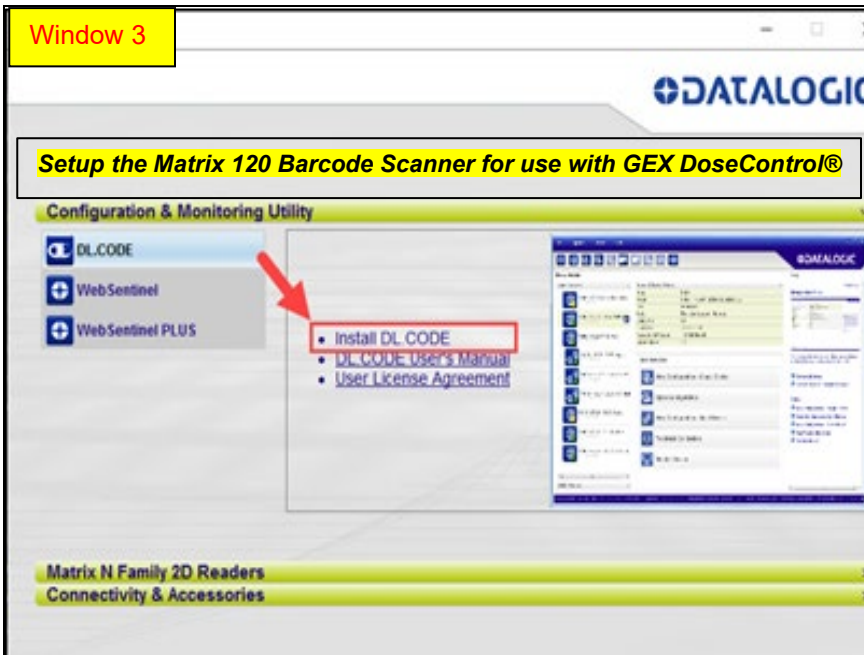


Window 2




Click Download.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)



IMPORTANT:

The USB Driver “Check” is very important for the installation process to occur. If skipped or missed, it is very difficult to fix the problem.

Note:

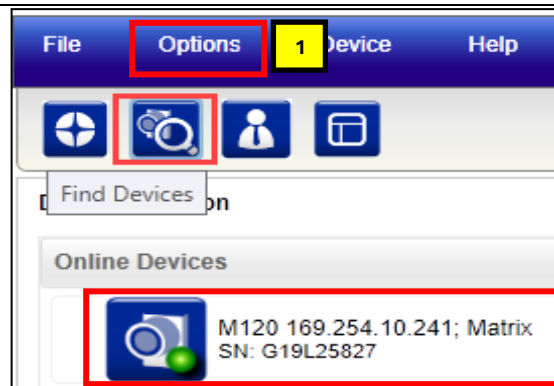
Administrator privileges required to approve the installation (via UAC or Admin credentials).

1. Save the file to your computer.
2. Install the DL.CODE.
3. Extract the contents of the Zip file previously downloaded.
3. Open the folder DL.CODE and double click the start.hta file. 5. Click Run if prompted with a security warning.
4. Select DL.CODE and click the Install DL.CODE link In the installation window's Configuration & Monitoring Utility section.
5. Click **Run** in the **View Downloads** window.
6. Check the **USB Driver** box and click **Install** in the DL.CODE **Welcome** window. This step is very important, if skipped or missed, it is very difficult to fix the problem.
7. Click **Next** in the Welcome window, accept the License Agreement. Click **Next** to continue.
8. Click Next to accept the defaults in the Destination Folder window, and then click **Install**.
9. Un-check the **Launch** checkbox if selected and click **Finish**.
10. Close the **DL.CODE Setup**, **View Downloads** and DataLogic Installation windows.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

Section 4 Below: Launch the DL.CODE and attach it to the Matrix 120 Scanner

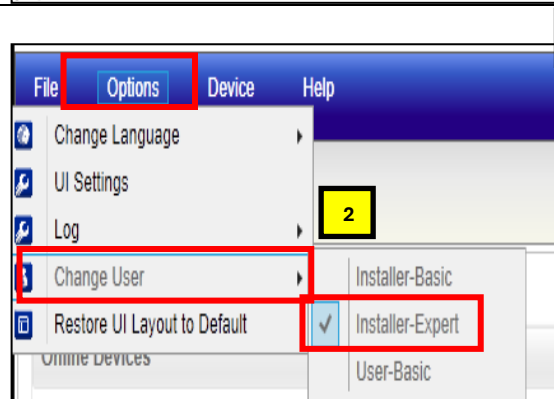
1. Plug the Matrix Scanner into one of your computer's USB ports.
2. Wait 30 seconds, then launch the DL.CODE from the shortcut on your desktop.
3. Click the Options Menu, Select "Change User" or if not, "Installer-Expert" (Windows 4 & 5).
4. Double click the scanner that appears in the Online Devices section (Window 6).



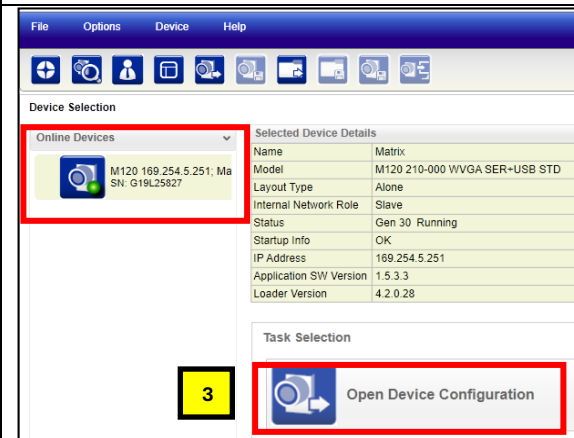
Window 4

NOTE1: The scanner will be ready to operate once the steady green Run LED appears on the hardware.

NOTE2: DL.CODE should locate the scanner automatically on startup.

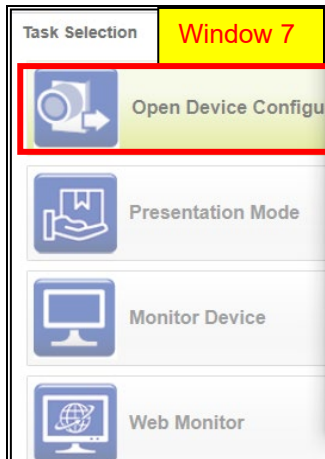


Window 5



Window 6

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)



- This confirms the GEX configuration is loaded on the scanner and is selected as the default.

If not, Click the Find Devices button in the DL.CODE menu bar until the scanner appears in the **Online Devices** lists (See **Window 4**).

IMPORTANT:

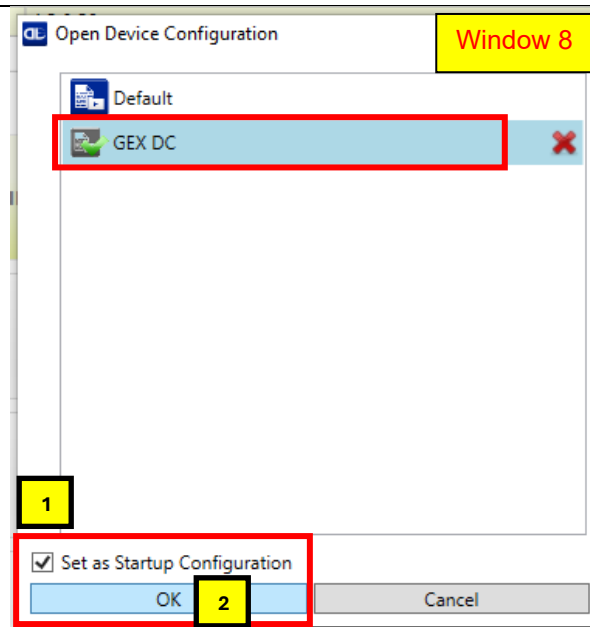
The Matrix scanner is preloaded with the GEX DoseControl® software “config” file for the Evolution gain and exposure time setup configuration prior to shipping the scanner.

NOTE:

If there is not a GEX DC configuration loaded on the scanner, load the GEX DC.dlcfg file to the scanner before use with GEX DoseControl® software.

Go to **Section 5 (Troubleshooting Guide)** below and follow the instructions in **Fixing problems with the Matrix 120 Scanner - Section A: First-time Configuration of the Matrix Scanner**.

If you are unable to fix the problem, contact GEX Customer Service support@gexcorp.com for assistance.

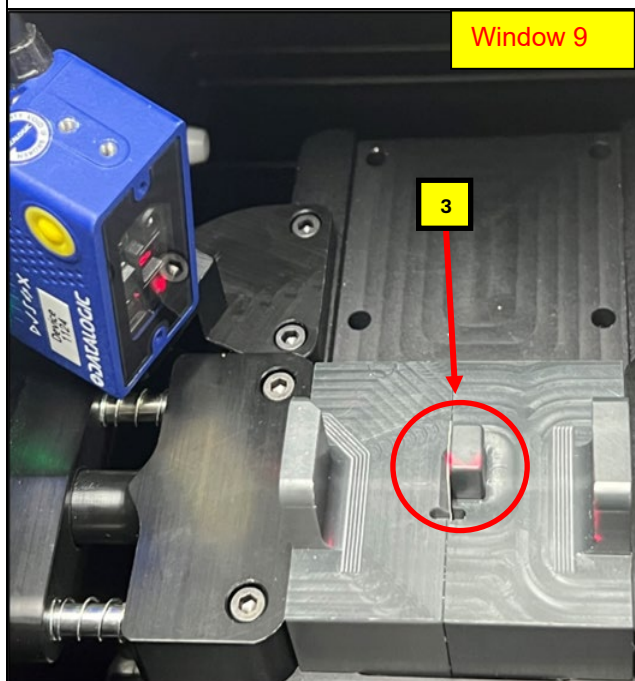


1. Select the “GEX DC Configuration” and verify the “Set as Startup Configuration” box is “Checked”, **Window 8**.

2. Click “OK” on the Open Device Configuration screen. The DL.CODE will open the Automatic Setup window for the attached scanner. The scanner will enter Continuous Mode, and its strobe will start to pulse.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

Section 5: TROUBLESHOOTING GUIDE



Check for the correct scanning:

1. Perform a scan test to ensure the Matrix scans the dosimeter barcode correctly.
2. Insert the appropriate dosimeter holder into the baseplate cavity. To ensure the holder is fully and correctly seated in the baseplate (See GEX Doc 100-159) for instructions.
3. Place the appropriate dosimeter sample in the dosimeter holder, with the barcode facing the scanner (See Window 9 above).



4. Confirm the barcode is scanned correctly in the DL.CODE.
5. Click the pause button to pause the scanning.

NOTE: Good scans will appear with a green highlight around them in the Result Windows 10 & 11.

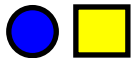


6. Adjust the focal setting if a green highlight is not present on the continuous Mode Window in DL.CODE. (Refer to the troubleshooting guide (Section 5).

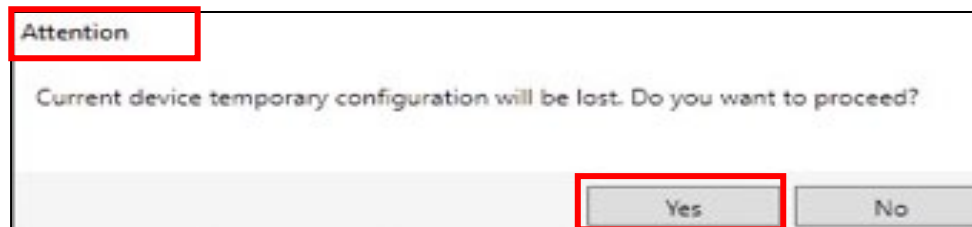
Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

Section 5 (Troubleshooting Guide)

Section 5 (Troubleshooting Guide)



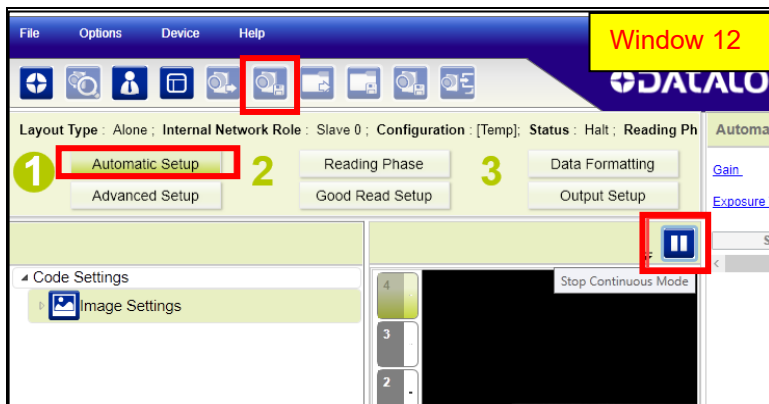
1. Verify the Matrix is scanning correctly, and the scanner is functioning properly if a green highlight is present on the Continuous Mode Screen Window (**Window 11 above**).
2. Perform first-time configuration for the Matrix 120 scanner.
3. Access the DoseControl configuration file provided by GEX. (The **GEX DC.dlcfg** file is provided with the software installation package.)
4. In DL.CODE, click the **File** menu, select **Open** and click “**Open Configuration from PC**”.
5. Select the “**GEX Config-2022.dlcfg**” file and click Open. Click “**Yes**” in the **Attention** dialog box above.



NOTE: The DL.CODE will open the Automatic Setup window for the attached scanner. The scanner will enter Continuous Mode, and its strobe will start to pulse.

Good scans will appear with a green highlight around them in the Result window (**See Windows 10 and 11**).

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)



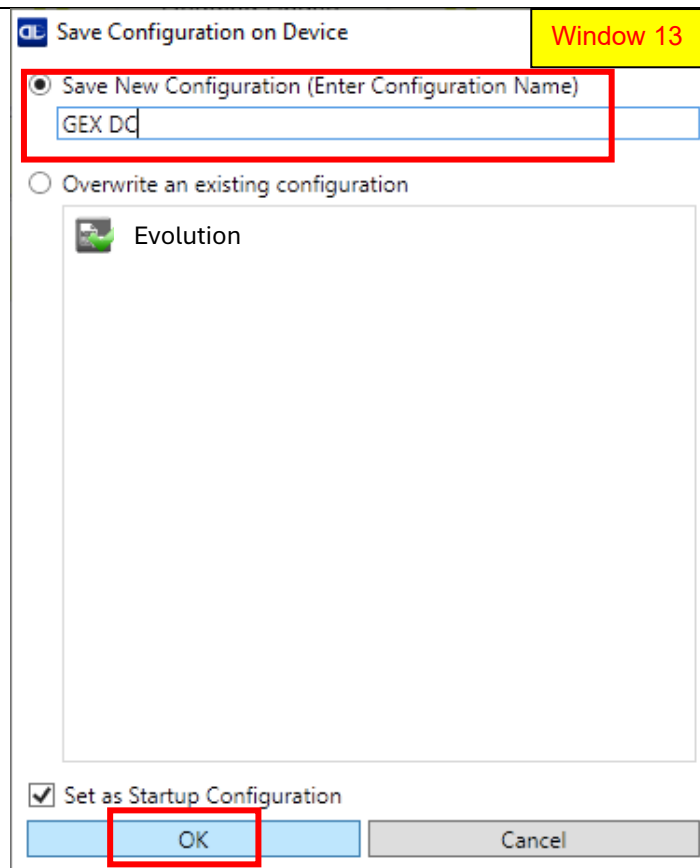
1. Click the pause button to pause the scanning.
2. Save the GEX Config-2022.dlcfg configuration to the scanner.

NOTE: Saving the GEX DC configuration is only required one time and allows the scanner to interface with DoseControl.

3. Click the SAVE icon on the Device button (**See Window12**).

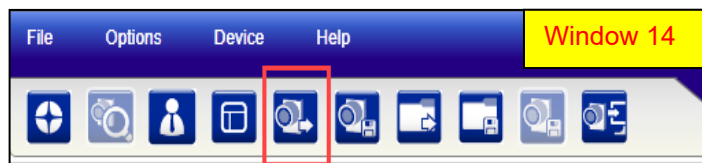


(Save Icon)



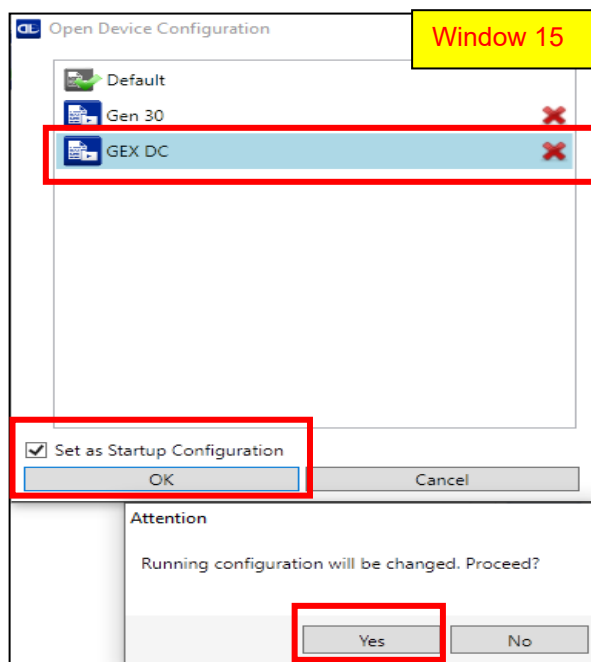
4. In the **Save Configuration on Device** window, select **Save New Configuration**.
5. Enter the name GEX DC.
6. Check the set as Startup Configuration box. **Click "OK"**.

Section 5: Troubleshooting Guide



NOTE: If the configuration changes for the scanner for unknown reason, (for example, if GEX DC is not set to startup as the default), the GEX DC configuration must be loaded for the scanner to operate correctly with DoseControl.

1. Load the GEX DC Configuration to the scanner.
2. Perform the following steps on a scanner where the GEX DC first time configuration has been performed.
3. Verify the scanner is attached in the “Getting Started” Window.
4. Click the Open Device Configuration button in the DL.CODE menu bar.
5. Click the “Open Device Configuration” button in the DL.CODE menu bar (**See Window 15**).

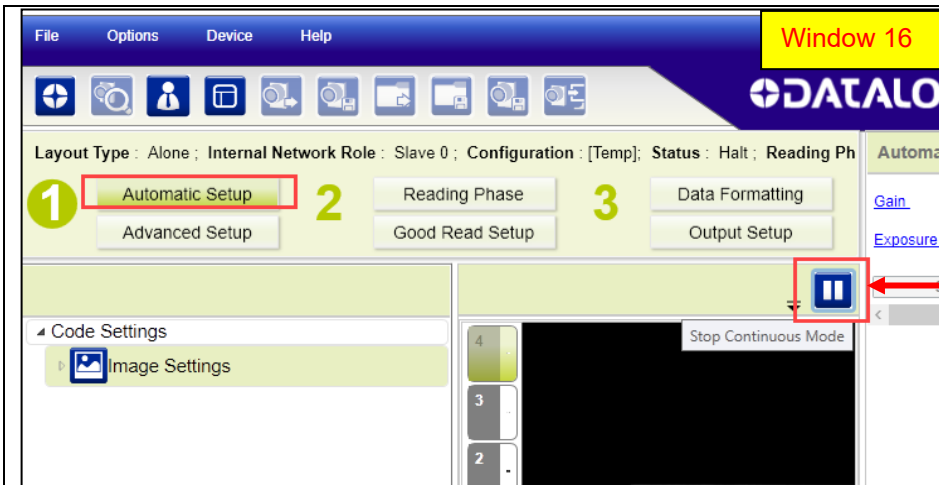


6. In the Open Device Configuration window, **Select GEX DC**.

7. Check the Set as Startup Configuration box and **Click “OK”**.

8. Click **“Yes”** in the Attention dialog box.

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

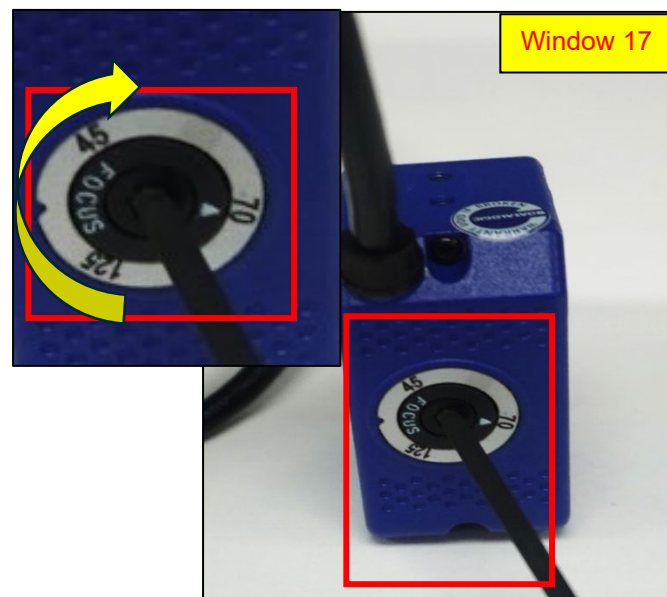


NOTE: DL.CODE will open the Automatic Setup window for the attached scanner.

The scanner will enter Continuous Mode, and its strobe will start to pulse.

1. Click the pause button (**See Window 17**).

2. Open DL.CODE and set up the Matrix 120 Scanner for DoseControl.
3. Connect to the Matrix scanner and open the Automatic Setup screen and start the Continuous Mode with the scanner pulse functioning.
4. Insert a dosimeter sample with a barcode facing the scanner. The dosimeter barcode will appear in the Continuous Mode window.
5. Locate the focal adjustment dial on Matrix 120. (See Window 17 below).
6. Adjust the scanner dial settings for evo using a 2.5mm hex driver to adjust the focus dial as given below (Step Windows 17 – 19 below).
7. Turn the dial setting clockwise (Right) to the 3:00 O'clock position.



Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

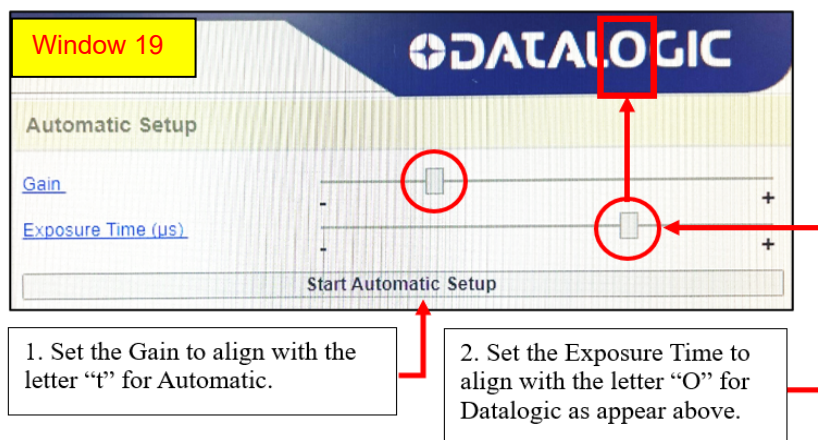


EVOLUTION Focal Setting:

1. Turn the dial setting clockwise (Right) as far as possible. A good scan is achieved when the green highlight appears around the barcode (**See Window 19 above**).

Section 5 (Troubleshooting Guide) – Evolution (Setting the Gain and Exposure Time)

DIAGRAM#2 – EVOLUTION Gain and Exposure Time Setup Configuration



Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

GUARANTEE : 1 year satisfaction guarantee. Undamaged products may be returned within one year from the date of delivery for any customer dissatisfaction.

CAUTIONS: As part of the DoseControl® dosimetry system, the Matrix scanner feature is appropriate for 1 dosimeter/pouch (1 absorbance count) applications ONLY. Applications using 2 dosimeters/pouch (2 absorbance count) or 4 dosimeters/pouch (4 absorbance count) must use a different solution to capture the dosimeter ID or dosimeter barcode such as a hand-held scanner or manual entry.

REFERENCES:

Download from the GEX website document library: <https://library.gexc corp.com/>

[GEX Doc#100-156](#), P4300 Thermo Evolution Spectrophotometer

[GEX Doc#100-159](#), Evolution Dosimeter Holder System

[GEX Doc#100-278](#), Integrated Barcode Scanner IQOQ Procedure

[GEX Doc#100-132-1](#), G30 Product Specifications and Usage Information for the (P4450) Matrix 120 Barcode Scanner

6.0 REVISION HISTORY:

DATE	CHANGE DESCRIPTION	REVISION
03/28/2024	<ul style="list-style-type: none"> - Added to Application section: The Matrix scanner feature is appropriate for 1 dosimeter/pouch (1 absorbance count) applications. - Added new Cautions section to include the above information. ECO 70651	E
04/24/2024	<ul style="list-style-type: none"> - Rephrased Step 4 to include “Install the Matrix scanner on the scanner mount with the Matrix cord facing up”. - Rephrased Step 5 to include “Attach the mount to the EVO baseplate and install a DoseStix dosimeter holder”. ECO 70668	F
01/13/2025	<ul style="list-style-type: none"> -PSU 100-132 instructions for the Evolution spectrophotometer base plate assembly and Matrix 120 Barcode Scanner Assembly were rewritten into new Doc# PSU 100-132-2, EVO PSU for the (P4390) Matrix 120 Barcode Scanner Assembly. -Added five (5) Sections: Section 1: Product Specifications and Product Description Section 2: Installation of the 120 Matrix Scanner and Mount 	G



GEX CORPORATION

Evolution Base Plate Assembly (P4330) and Matrix 120 Barcode Scanner (P4390)

		Section 3: Installation of the EVO Base plate in the EVO Spectrophotometer Sample Compartment Section 4: Setting up the Matrix 120 Scanner for use with GEX DoseControl® software Section 5: Troubleshooting Guide for adjusting the Focus Dial Setting of the Matrix Scanner and the Gain and Exposure Time Setup Configuration ECO 75001		
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