



DESCRIPTION

The Datalogic Matrix 120 Barcode Scanner is a component of the DoseControl Dosimetry System. It is mounted inside either the Thermo Evolution or GENESYS 30 Spectrophotometer sample compartment using a specially designed bracket and connected to the dosimetry workstation PC with a USB interface cable.

APPLICATION

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

SPECIFICATIONS

Physical Specifications:

Product Dimensions	Packaging Dimensions	Product Weight
45.4mm (L) x 29.2mm (W) x 23.5mm (H) (1.79" L x 1.15" W x 0.93" H)	12.7cm (L) x 12.7cm (L) x 7.62 cm (H) (5.0" x 5.0" x 3.0")	0.8 lbs.

Material	Cast aluminum housing
Color	Blue
Packaging	Manufacturer's cardboard box and wrapped in bulk packaging to provide protection and prevent movement inside the product box during transport. A soft lens cleaning wipe is included.

Included Components

5/64" and 3/32" hex driver tools, M2.5-0.45 x 6mm screws, USB converter cable

Calibration

None required.

Maintenance

- The barcode scanner should be installed in a location where it will not be exposed to excessive dust or other particulate matter.
- The barcode scanner should 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.
- Avoid dropping or physically damaging the scanner. If damage occurs, verify performance, and consult GEX Customer Service.

Storage

Store the device in a cool and dry area.

PRODUCT PHOTOS





USAGE

Prior to Installation:

1. Unbox the barcode scanner and visually inspect for damage.
2. GEX has set the focus dial to 45mm. Confirm this is set to 45mm; if not, use a 2.5mm hex driver to adjust the focus dial to 45mm. Be careful not to over-rotate the focus dial.
3. GEX has pre-loaded the configuration necessary for the Matrix to operate with GEX DoseControl dosimetry software. The configuration is named "GEX DC" or "GEX Config-2022".
4. Install the mount for the type of dosimeter to be scanned.

Installation of the Matrix 120 into EVO spectrophotometer:



1. If you want to scan GEX B3 dosimeters, use the Evo-GB3-Matrix mount. If you want to scan DoseStix dosimeters, use the Evo-DS-Matrix mount.

IMPORTANT: The product includes the scanner with integrated USB cable, the mount, and screws to secure it to the P4330 GEX Dosimeter Holder System Baseplate. When ordered with the P4330, the mount for the Matrix is typically attached to the baseplate by GEX prior to shipment.

2. Secure the scanner to the mount using the 2.5mm or 6.5mm cap screws and 5/64" hex driver (included). The Evo-DS-Matrix mount screws into the top of the Matrix. The Evo-GB3-Matrix mount screws into the bottom of the Matrix. See Figure 1. NOTE: Ensure the Matrix cord is facing up and the yellow power button is facing the operator.
3. Secure the mount assembly to the P4330 baseplate using 6-32 x 3/8" cap screws and 7/64" hex driver. See Figure 2.



FIGURE 1: Matrix 120 Barcode Scanner Assembly



FIGURE 2: Secured Mount Assembly



4. Insert the baseplate assembly into the sample compartment of the Evolution using the registration pins at the back, and then push down to secure the plate against the front slip-pin (see Figure 3).
5. Ensure that the spring-loaded beam tubes fit flush against the walls (see Figure 4).

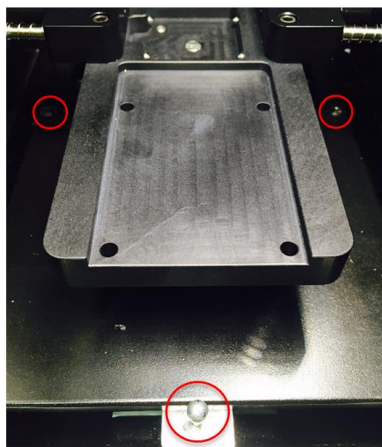


FIGURE 3: Registration pins and front slip-pin

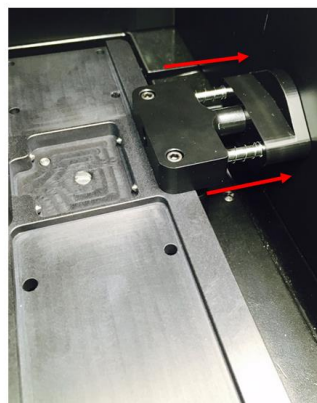


FIGURE 4: Spring-loaded beam tubes

6. Route the scanner USB cord out to the front of the sample compartment through the flexible foam opening. See Figure 5 below.



FIGURE 5: USB routing

Installation of the Matrix into the GENESYS 30 spectrophotometer:

1. If you want to scan GEX B3 dosimeters, use the G30-GB3-Matrix mount. If you want to scan DoseStix dosimeters, use the G30-DS-Matrix mount. NOTE: The GB3 mount will have "GEX B3" etched onto the beam tube.

IMPORTANT: The product includes the scanner with integrated USB cable, and the mount. When ordered with the P4405 GEX Dosimeter Holder System Baseplate, the Matrix mount is typically attached at GEX prior to shipment.

2. Secure the scanner to the mount using the 2.5mm cap screws and 5/64" hex driver (included). See Figure 6.
3. Remove the left beam tube using the 3/32" hex driver (included) and retain the #4-40NC x 0.625 cap screws.



4. Secure the mount assembly to the P4405 baseplate using the retained cap screws and 3/32" hex driver. See Figure 7.



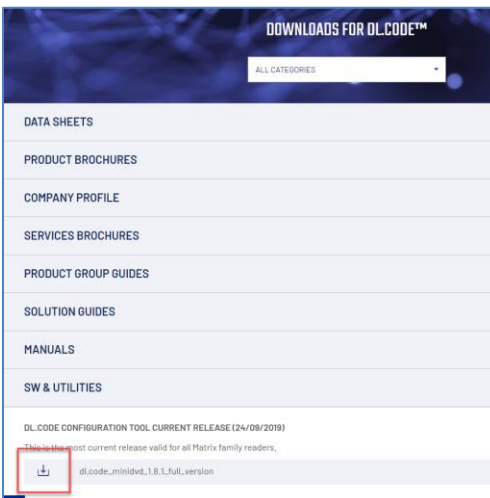
FIGURE 6: Barcode Scanner Assembly



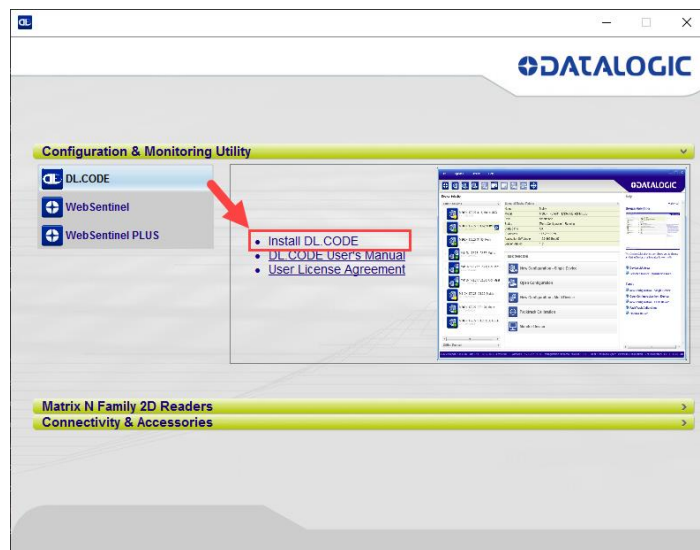
FIGURE 7: Secured Mount Assembly

Setup the Matrix 120 Scanner for use with GEX DoseControl:

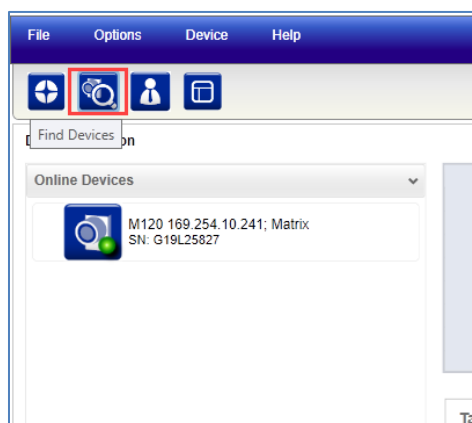
1. Download the GEX-supported release (version 1.8.1 or higher) of the DL.CODE software from the [DataLogic website](#):
 - a. Click or scroll to **Downloads**.
 - b. Expand **SW & Utilities**, find and click the download link for version 1.8.1 (or higher):



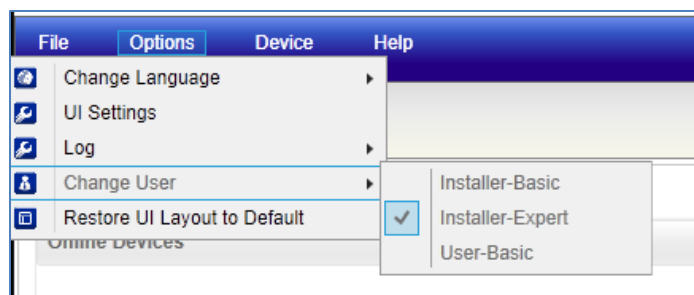
- c. Save the file to your computer.
2. Install DL.CODE:
 - a. Extract the contents of the zip file you downloaded, find and open the folder **DL.CODE** and double click the **start.hta** file. If prompted with a security warning, click **Run**. In the Installation window's **Configuration & Monitoring Utility** section, select DL.CODE and click the **Install DL.CODE** link:



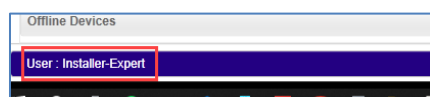
- b. In the **View Downloads** window, click **Run**.
 - c. In the DL.CODE **Welcome** window, check the **USB Driver** box and click **Install**.
 - i. **Note:** Administrator privileges required to approve the installation (via UAC or Admin credentials).
 - d. After a few moments, click **Next** in the Welcome window, accept the License Agreement, and click **Next**.
 - e. Accept the defaults in the Destination Folder window by clicking **Next**, and then click **Install**.
 - f. Un-check the **Launch** checkbox if selected and click **Finish**.
 - g. Close the **DL.CODE Setup**, **View Downloads** and DataLogic Installation windows.
3. Launch DL.CODE and attach to the Matrix 120 scanner:
 - a. Plug the scanner into one of your computer's USB ports.
 - b. Wait 30 seconds, then launch DL.CODE from the shortcut on your desktop. The scanner will be ready to operate once the steady green Run LED appears on the hardware.
 - c. DL.CODE should locate the scanner automatically on start up. If it does not, click the **Find Devices** button in the DL.CODE menu bar until the scanner appears in the **Online Devices** list:



- d. Click the **Options** menu, select **Change User** and if not selected, click **Installer-Expert**:



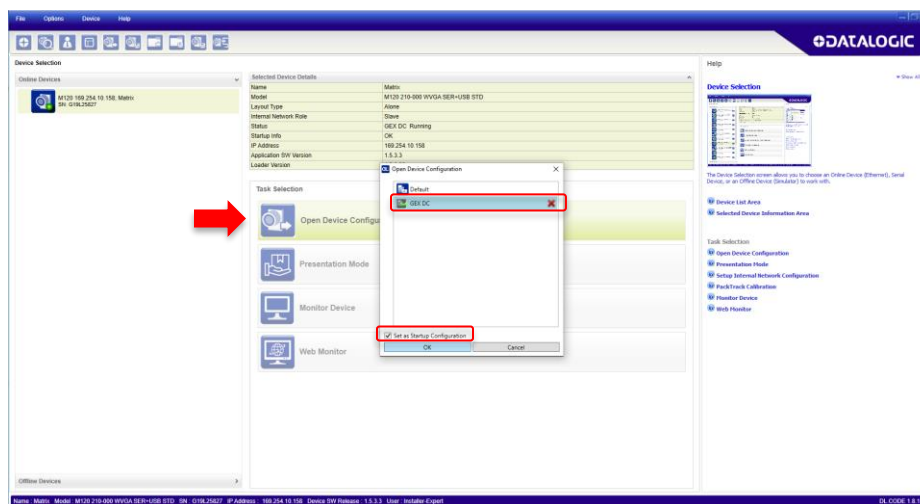
The User bar at the bottom of the application will reflect the current user (a short delay occurs when changing a user):



- e. Double click the scanner that appears in the **Online Devices** section. The scanner now appears in the **Selected Device Information Area**:

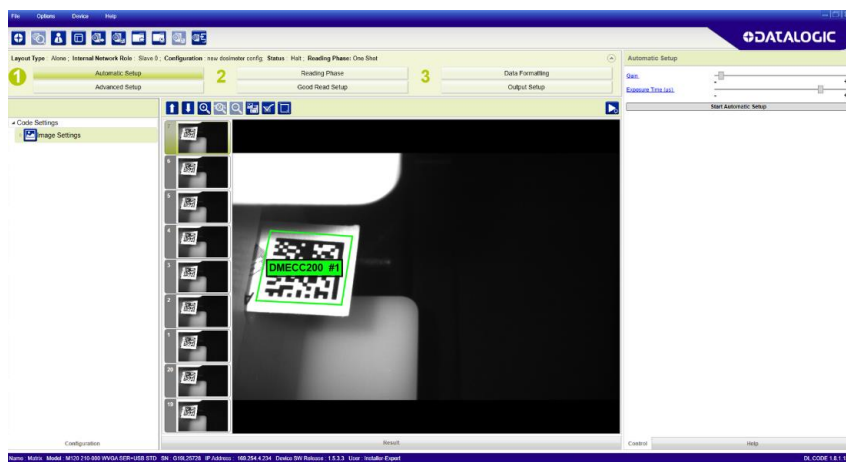


4. Double click the “Open Device Configuration” button under Task Selection; this opens the Open Device Configuration screen.



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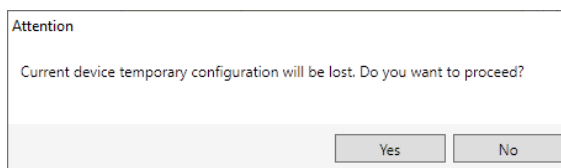


- c. If a green highlight is present on the Continuous Mode screen window, the Matrix is scanning correctly, and the scanner is functioning properly.
 - i. **IMPORTANT:** If a green highlight is not present on the Continuous Mode window in DL.CODE, the focus will need to be adjusted. To do this, Follow the instructions in ***Fixing problems with the Matrix 120 Scanner - Section B: Adjusting the Focus Setting of the Matrix Scanner.***

FIXING PROBLEMS WITH THE MATRIX 120 SCANNER

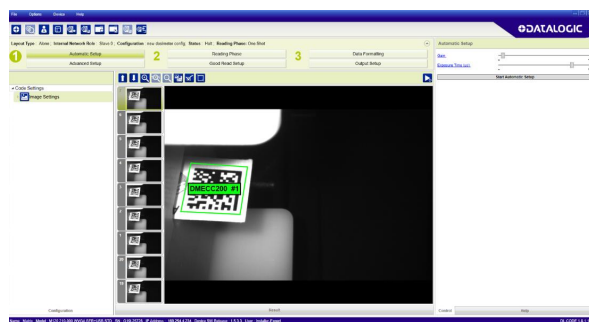
A) First-time Configuration of the Matrix Scanner (only if GEX DC configuration is not pre-loaded on scanner)

1. Perform first-time configuration for the Matrix 120 scanner:
 - a. Access the DoseControl configuration file provided by GEX. (The **GEX DC.dlcfg** file should have been provided with the software installation package.)
 - b. In DL.CODE, click the **File** menu, select **Open** and click **Open Configuration from PC.**
 - c. Select the **GEX DC.dlcfg** file and click Open. Click **Yes** in the **Attention** dialog box:

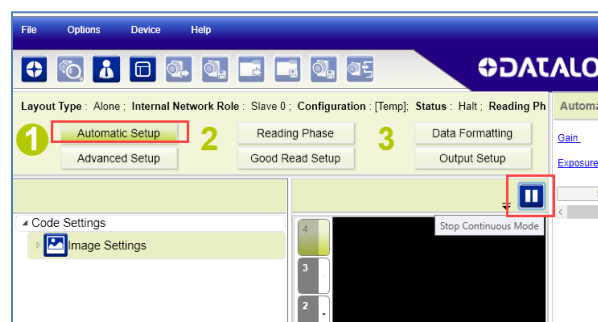


- d. DL.CODE will open the Automatic Setup window for the attached scanner. The scanner will enter Continuous Mode, and its strobe will start to pulse.
- e. Good scans will appear with a green highlight around them in the Result window:





- f. Click the pause button:



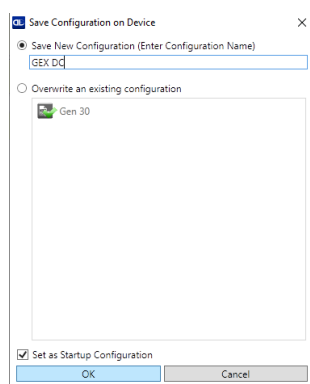
2. Save the GEX DC configuration to the scanner.

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

- a. Click the **Save on Device** button



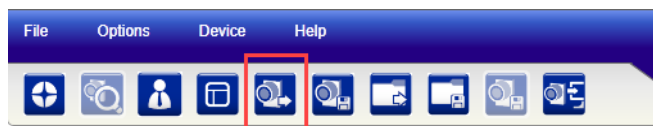
- b. In the **Save Configuration on Device** window, select **Save New Configuration**, enter the name **GEX DC**, check the **Set as Startup Configuration** box and click **OK**:



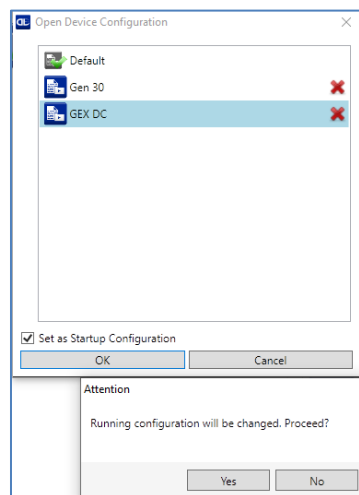
3. Load the GEX DC configuration to the scanner.

NOTE: If for some reason the configuration changes for the scanner (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. The following steps can be performed on a scanner where the GEX DC first time configuration has been performed:

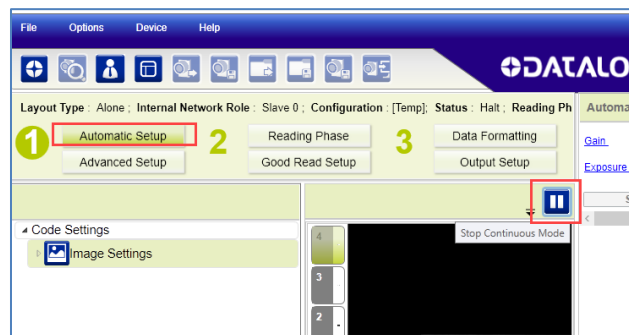
- a. With the scanner attached in the Getting Started window, click the Open Device Configuration button in the DL.CODE menu bar:



- b. In the **Open Device Configuration** window, select **GEX DC**, check the **Set as Startup Configuration** box and click **OK**. Click **Yes** in the Attention dialog box:



- c. 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. Click the pause button:



B) Adjusting the Focus Setting of the Matrix Scanner

1. Open DL.CODE. Follow step 3 in the section above, Setup the Matrix 120 Scanner for DoseControl, connect to the Matrix scanner and open the Automatic Setup screen and start the Continuous Mode with the scanner pulse functioning.
 - a. Insert a dosimeter sample with a barcode facing the scanner. The dosimeter barcode will appear in the Continuous Mode window.

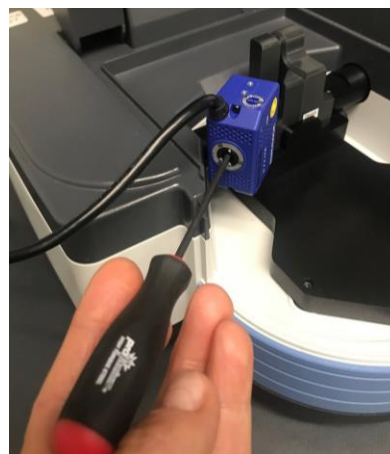


Product Specifications and Usage Information

P4390 / P4450

Matrix 120 Barcode Scanner

2. Locate the focal adjustment dial on the Matrix 120.
3. Use a 2.5mm hex key to adjust the focus dial to **45mm**.
 - a. Continue to slowly adjust the focus dial, using slight adjustments, until a good scan is achieved, and a green highlight appears around the barcode:



GUARANTEE

Guarantee:

1 year satisfaction guarantee. Undamaged product 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#100-167](#), P4400 GENESYS 30 Spectrophotometer
- [GEX Doc#100-278](#), Matrix 120 Integrated Barcode Scanner IQOQ Procedure

REVISION HISTORY

DATE	CHANGE DESCRIPTION	REVISION
08/29/2023	<ul style="list-style-type: none"> - Added information about the GEX B3 vs DoseStix mounts for the Matrix scanner in both the Evolution and GENESYS 30 sections. - Added instruction on scanning 2D barcode on the new GEX B3 dosimeter. ECO 70641 	D
11/15/2023	<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



Product Specifications and Usage Information

P4390 / P4450

Matrix 120 Barcode Scanner

03/28/2024	<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
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