

Calibration

Introduction

Calibration must be done after changing anything in the I-Guard system (e.g., I-Guard board or light guide).

The calibration must be performed using the Minolta CA 210 measurement instrument, the calibration cover and the Barco software tool MFDControl.exe (IMPORTANT- internal use only).

You must use the calibration cover because it is the only way to ensure that the lens of the Minolta is in the correct position and at the right distance of the panel.

The calibration is best performed in a darkened room.



Calibration set-up

Warm-up times

- The Minolta must be warmed up for at least 15 min. before 0-calibration of the CA- 210 will be started (is needed to have the accuracy of 2% when you measure luminance values less than 5 cd/m^2).
 - The display must be warmed up for at least 2 hours without power interruption (no power saving).
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First perform the CA- 210 0-calibration

- Be sure the measuring probe is connected to the CA-210.
- Power-on the CA-210.
- Turn the pointing ring to the "0-CAL" position.
- Do not point the probe in the direction of high luminance. Be sure the pointing ring is set to "0-CAL" and not to "POINTER".

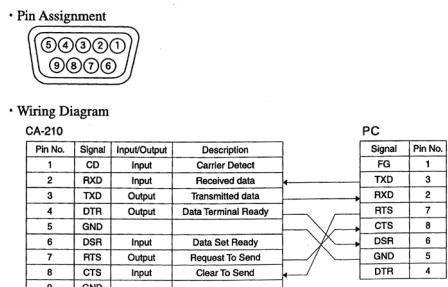
- Press the “0-cal” button on the CA-210.
 - After 0-calibration, turn the pointing ring to the “MEAS” position.
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Remarks:

- If the ambient temperature changes, redo the zero calibration
 - The zero calibration can be checked in normal working position by putting the measurement head on a flat surface, so no light will reach the sensor and the display will show 0.00 cd/m². If the zero calibration is not well performed, the message “offset error” will appear or a value greater than zero will be measured.
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Then calibrate the I-guard with ULT on

1. Connect the calibration cover to the display.
2. Connect the CA 210 to the PC by a proper cable (see illustration) and put the measuring probe in the calibration cover.



3. Start the program **Mfdcontrol.exe** (version 2.2.6.4 at least).
4. In the main menu, click the **PUC** button.
5. Make sure the check box **PUC enable** is checked. Exit the PUC menu.
6. In the main menu, click the **I-Guard** button.
7. Click the **Color I-Guard** button for color displays or **Monochrome I-Guard** button for gray-scale displays.
8. In the Monochrome I-Guard window, select the proper Minolta measuring tool by checking the corresponding check box.
9. Adjust the **Backlight** slider (color I-Guard: Backlight All) so that the measured Y value approximately matches the desired calibrated value (see technical specs).
10. Leave the display in this situation for 1 hour to eliminate the influence of temperature-dependent panel behaviour.
11. Click the **Calibrate** (color: Calibrate I-Guard) button.
12. When finished, exit the Built-in sensor and I-Guard calibration menus.



Next, re-calibrate the I-guard with ULT off

1. In the main menu, click the **PUC** button.

2. Clear the check box **PUC enable**. Exit the PUC menu.
 3. In the main menu, click the **I-Guard** button.
 4. Click the **Color I-Guard** button for color displays or **Monochrome I-Guard** button for gray-scale displays.
 5. Again, adjust the **Backlight** slider (color I-Guard: Backlight All) so that the measured Y value approximately matches the desired calibrated value (see technical specs).
 6. Again, leave the display in this situation for 1 hour to eliminate the influence of temperature-dependent panel behaviour.
 7. Click the **Calibrate** (color: Calibrate I-Guard) button.
 8. When finished, exit the Built-in sensor and I-Guard calibration menus.
 9. In the main menu, click the **PUC** button.
 10. Check the check box **PUC enable**. Exit the PUC menu.
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At last, run the Modeling procedure

1. In the main menu, click the **I-Guard** button.
2. Click the **Color I-Guard** button for color displays or **Monochrome I-Guard** button for gray-scale displays.
3. In the Monochrome I-Guard window, select the proper Minolta measuring tool by checking the corresponding check box.
4. Click the button **Stabilizer modeling** (color: color stabilizer modeling).
5. When finished, exit MFDControl.