MBC IQ GUI

MBC-IQ INTERFACE

User Manual

Version 1.1

iXblue S.A.S.
Photonic Solutions Business Unit
3, rue Sophie Germain, TEMIS
25000 Besançon, France

T. : +33 3 81 85 31 80
F. : +33 3 81 85 15 57
www.photonics.ixblue.com

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Table des matières

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Interface - Introduction

iXblue proposes a graphical user interface to simplify bias control management for the ModBox and MBC products family. Based on a RS232 serial communication and a Visual Basic® interface.

Interface - Setup

Minimum Computer Requirements

- Processor 1 GHz with 512MB RAM
- Disk space (minimum) 32-bit : 600 MB 64-bit: 1.5 GB
- Windows XP Professional SP3
- One USB port for each MBC to drive.

Software installation

1/ Log on with an administrator account.
2/ Insert the iXblue CD-ROM into the CD drive or plug the USB key.
3/ Install setup.exe (system restart maybe required)
4/ Install USB MBC Drivers (if needed)
5/ Run MBC DG Control.exe file

Hardware Setup

1. Connect USB cable to the controller rear panel and the PC.
2. Plug the power cable and switch on the device.
3. USB MBC connexion will be seen as COM peripheral by your PC.

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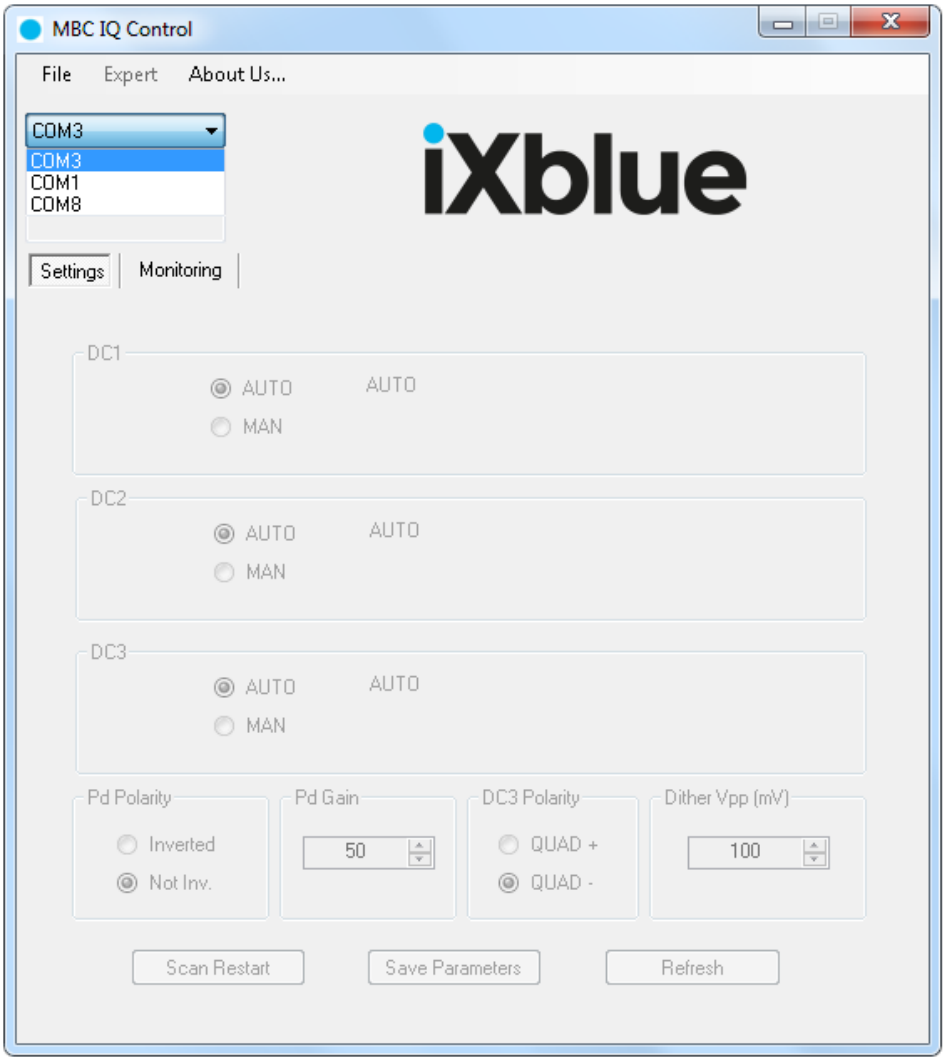
Interface - Operation

General considerations

One needs to choose the COM port. To proceed, click on the down arrow of the list box and select the COM port connected to the controller.



After selecting your port, click on “Connect” to obtain your S/N number and activate the rest of the interface.

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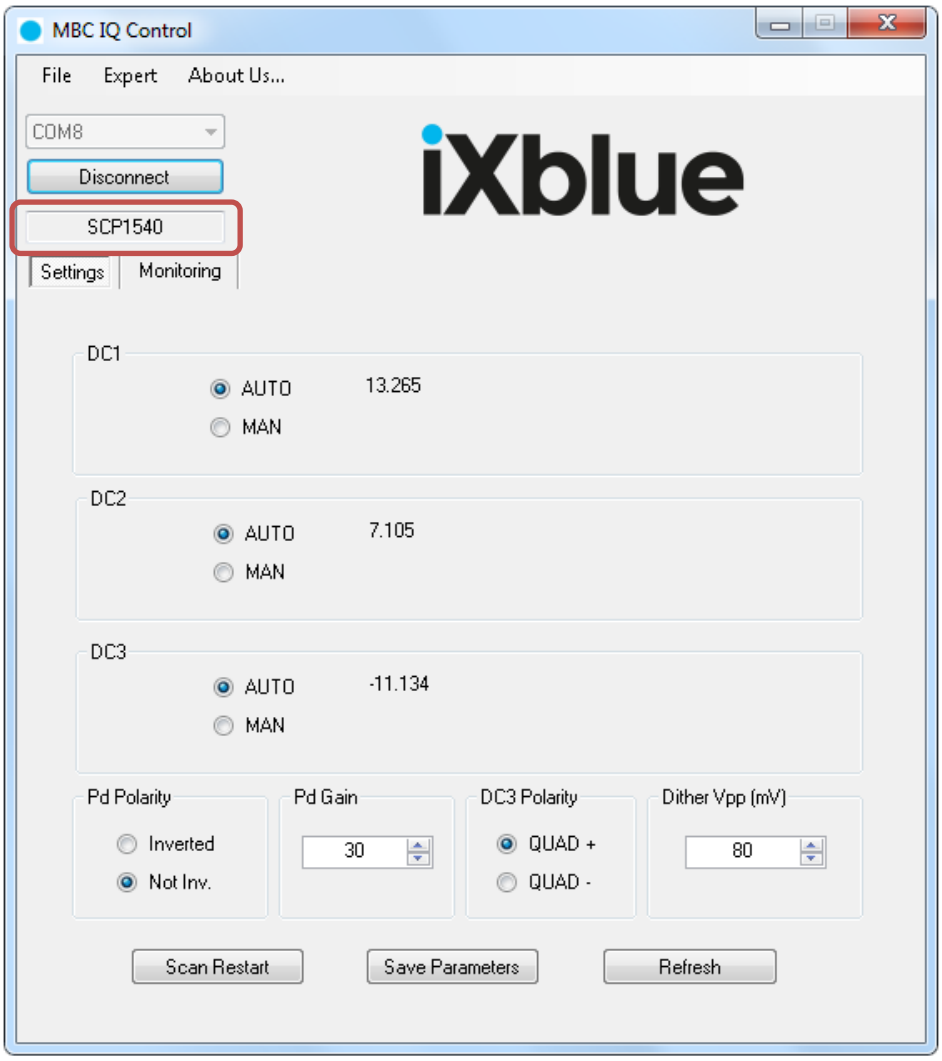

Once done, the MBC serial number will be displayed.

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Setting bias control parameters

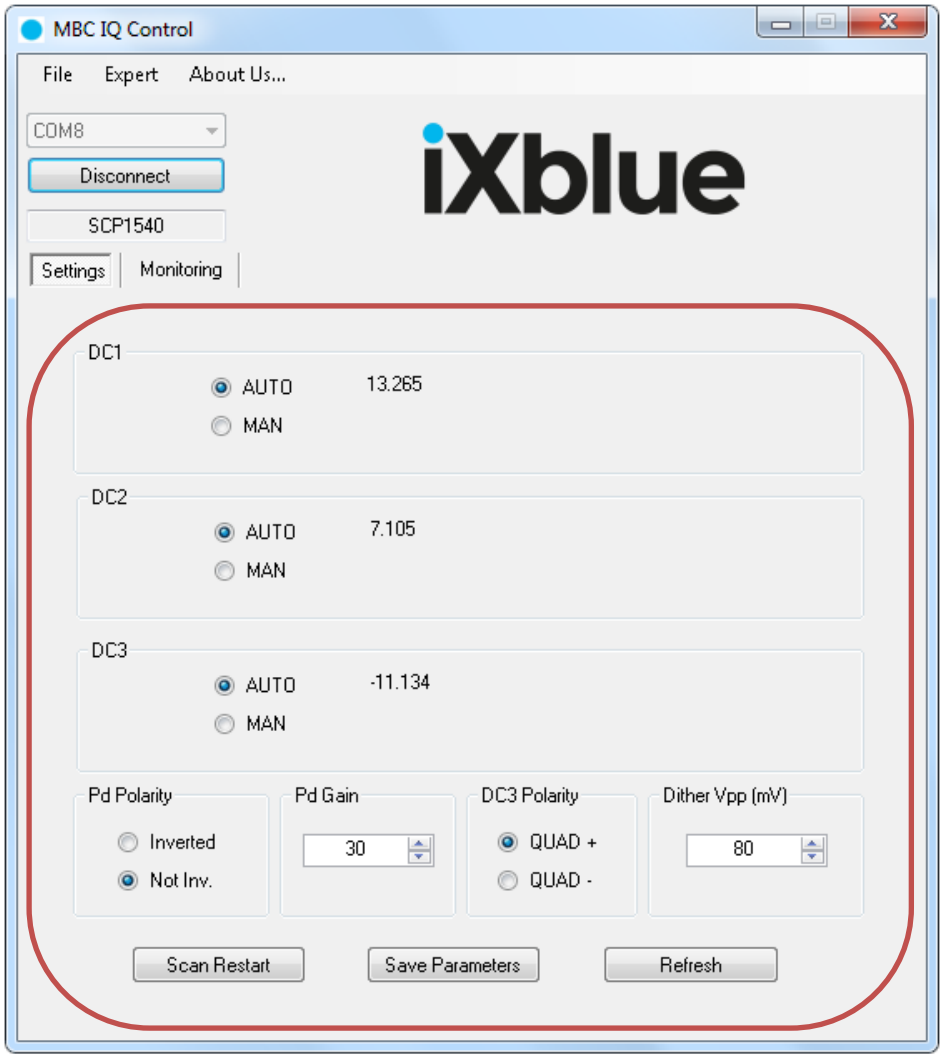

Figure 1: Bias control standard parameters

AUTO/MAN: Select the way to adjust DCs automatic or manual from –13.5 to +13.5V.
Pd Polarity: Set photodiode polarity used to retrieve probe signal.
Pd Gain: Used to adjust control signal.
DC3 Polarity: Set DC3 phase positive or negative.
Dither Vpp: Amplitude of probe signal used to control DCs.
Scan Restart button: The bias control routine is reinitialised. This is recommended to restart the feedback control when some parameters have been changed (Dither amplitude, Dither frequency, Photodiode gain).
Save Parameters button: Current configuration is saved into the board.
Refresh button: Application reloads all parameters from the board.

Bias monitoring

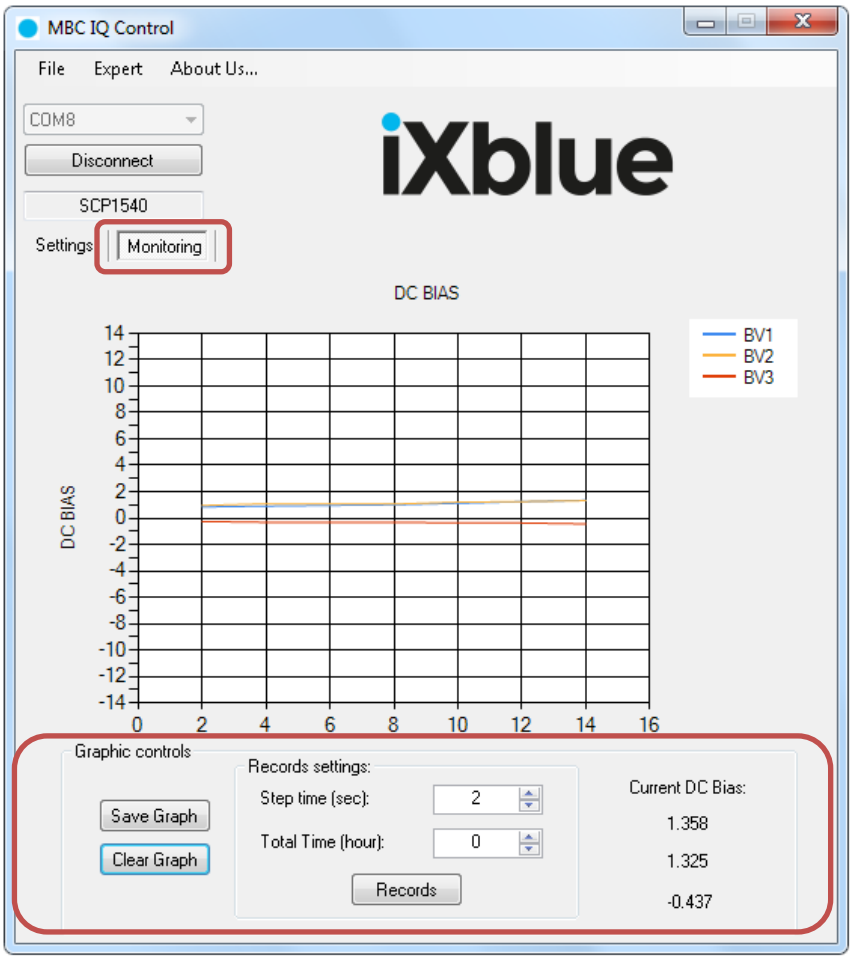

Figure 2: bias monitoring control

DC bias is always monitored, you can clear or save the graph.

Bias data recording

The *Records* function allows saving a measure with a specific step time. It saves time stamps and DC bias values on a text file.

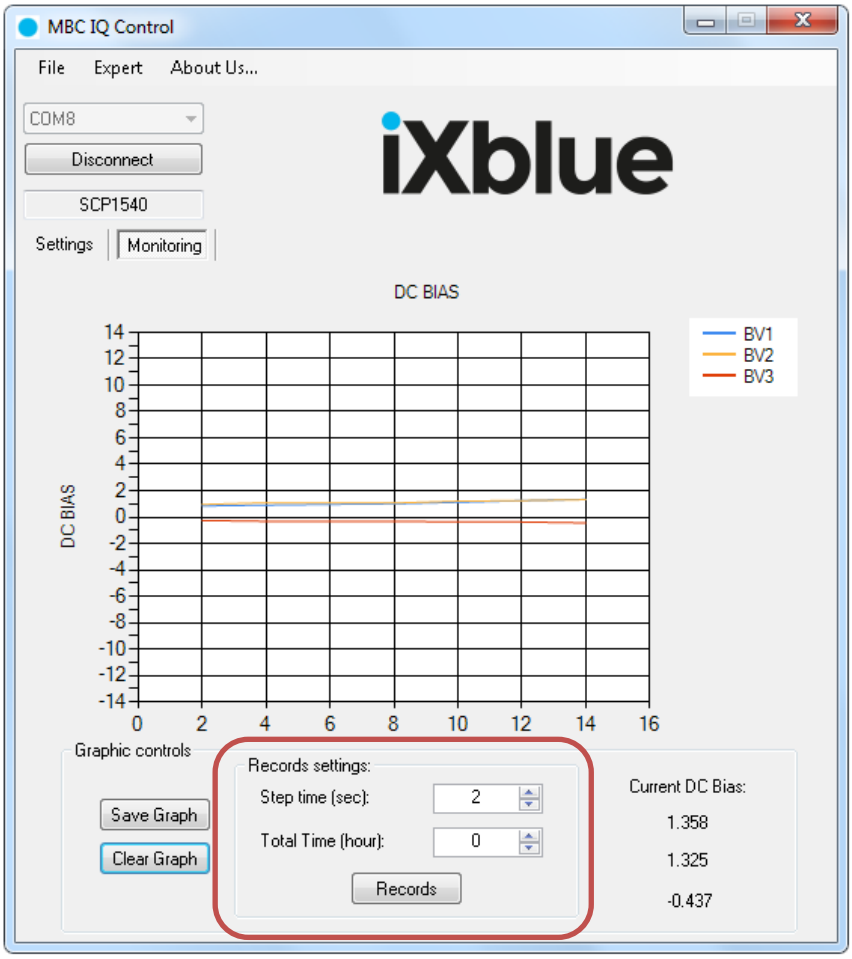

Figure 3: start recording bias values

The *"Record"* button starts the bias recording procedure.

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First step:
Set the time interval between each record with “Step Time” and the record duration with “Total Time” in hour. “Total time” at 0 means recording until “Stop” button is pressed.
Second step:
Press “Records” button and a dialog box appear to set the file name and destination folder.
Third step:
Press “Save” button in the dialog box to launch record procedure.

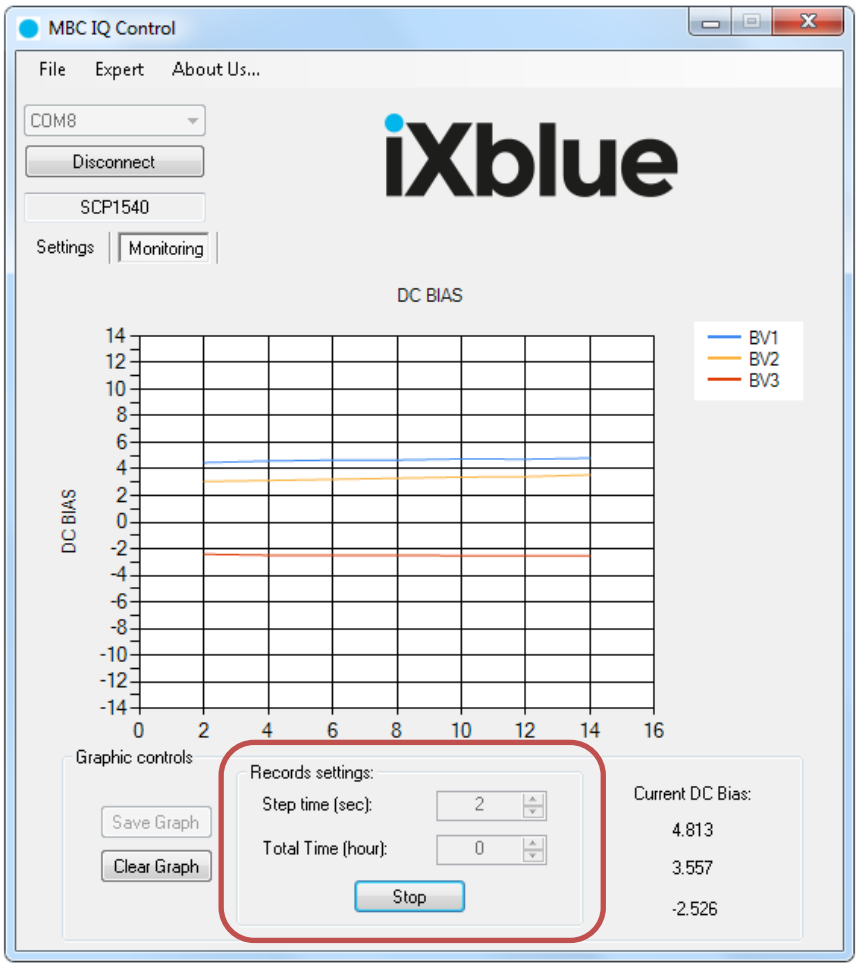

Figure 4: stop recording bias values

At any time it is possible to stop the record procedure by clicking on the “Stop” button (See Figure 6).

Manual mode

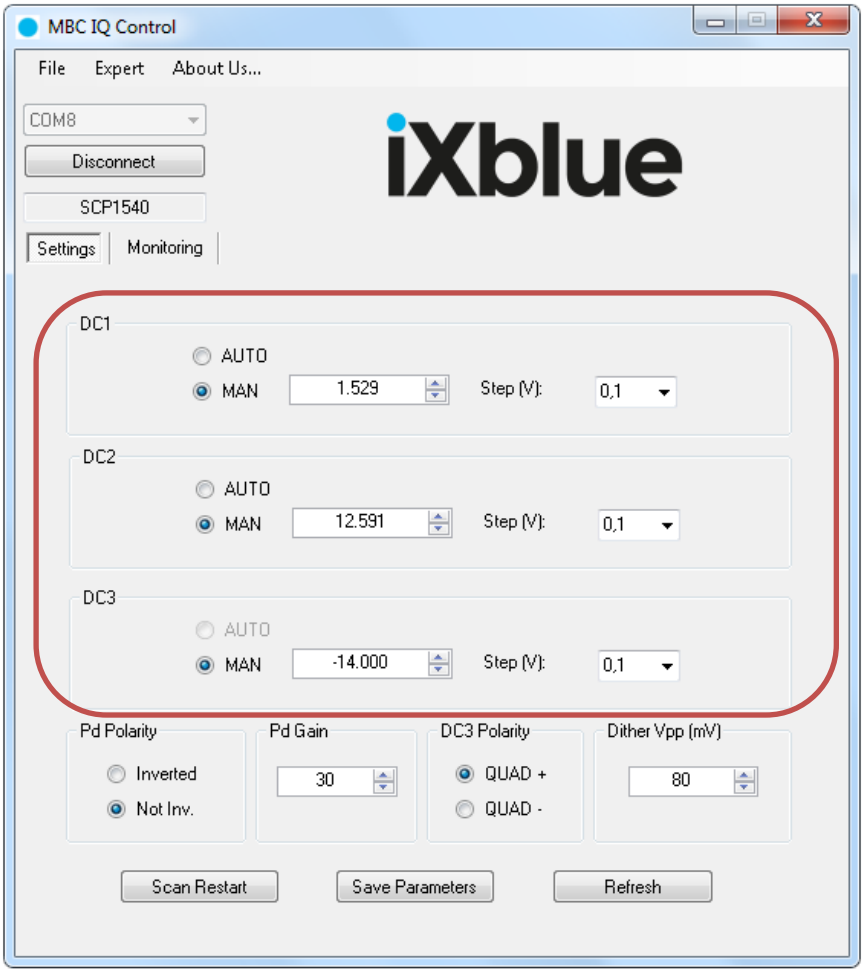

Figure 5: bias control in manual mode

In Manual Mode, the Bias control works as a DC voltage source. The applied bias is adjusted by decreasing / increasing the DCs (See Figure 7). It is also possible to change the variation step.

ANNEXE:

Calibration step:

Step	
1	Apply a dither of 50mV
2	Increase Photodiode Gain
3	Do a scan to detect DC Vπ

If the feedback loop oscillate, you may reduce the Photodiode Gain in order to stabilize the loop (reducing the gain value by 20 to 40 units of gain is generally enough).