Application Note

AS7225

Evaluation User Interface Installation & Operation Guide

Content Guide

1 General Description

The AS7225 Calibrated XYZ Chromatic Smart Lighting Director device resides on an ams AS7225 demo board with LEDs and an external MCU. The demo board connects to a PC-based user interface called the Evaluation User Interface (UI).

This ams Evaluation UI provides a simple yet powerful way to manage, configure, and observe the AS7225 device. It provides test setup as well as test data observation.

Information and usage detailed in this document:

- General description
- Evaluation UI software installation & updating
- Demo Hardware setup
- General usage of the Evaluation UI

For detailed information on the AS7225 device itself, please refer to the separate datasheet document available from ams.

2 Evaluation User Interface (UI) Installation (for Windows Computers)

What is required for Installation:

1. AS7225- Demo Kit (provided by ams).
2. USB stick with the Evaluation UI software (provided by ams).

Installation Procedure

1. Insert the ams provided USB stick into the computer.
2. Open the ams_AS7225_Main folder on the USB stick and copy the ".exe" file into the pc working directory of your preference.
3. If not already installed on the computer, you will need to install USB serial port com drivers. Right click on the "CDM v2.12.00 WHQL Certified.exe" located in the FTDI Virtual COM Port Driver Setup folder on the USB stick and install as an administrator.
4. Connect the TSL4531 board (optional, for adding Daylighting) and connect the USB (pc) to Serial (demo board UART) cable. Do not plug cable end into PC at this time. Connect the DC power source to the AS7225 Demo board (see demo board kit elements and connections in Figures 1 & 2). The 12V power source for the Demo board should be connected and power-down before USB to UART cable is connected to the PC.
5. Launch the Evaluation UI by clicking on the "AS7225_GUI xVx.x .exe" file in the chosen working directory created in step 2 above.

Evaluation UI Update Procedure

1. Simply replace the ".exe" file in the working folder created in the initial installation with the any new Evaluation UI ".exe" file from ams
2. Connect and power on the demo board, as described in step 4 above.
3. Launch the updated Evaluation UI by clicking on the updated ".exe" file.

Figure 1: AS7225 & AS4531 Demo Setup - Disconnected from PC & Power

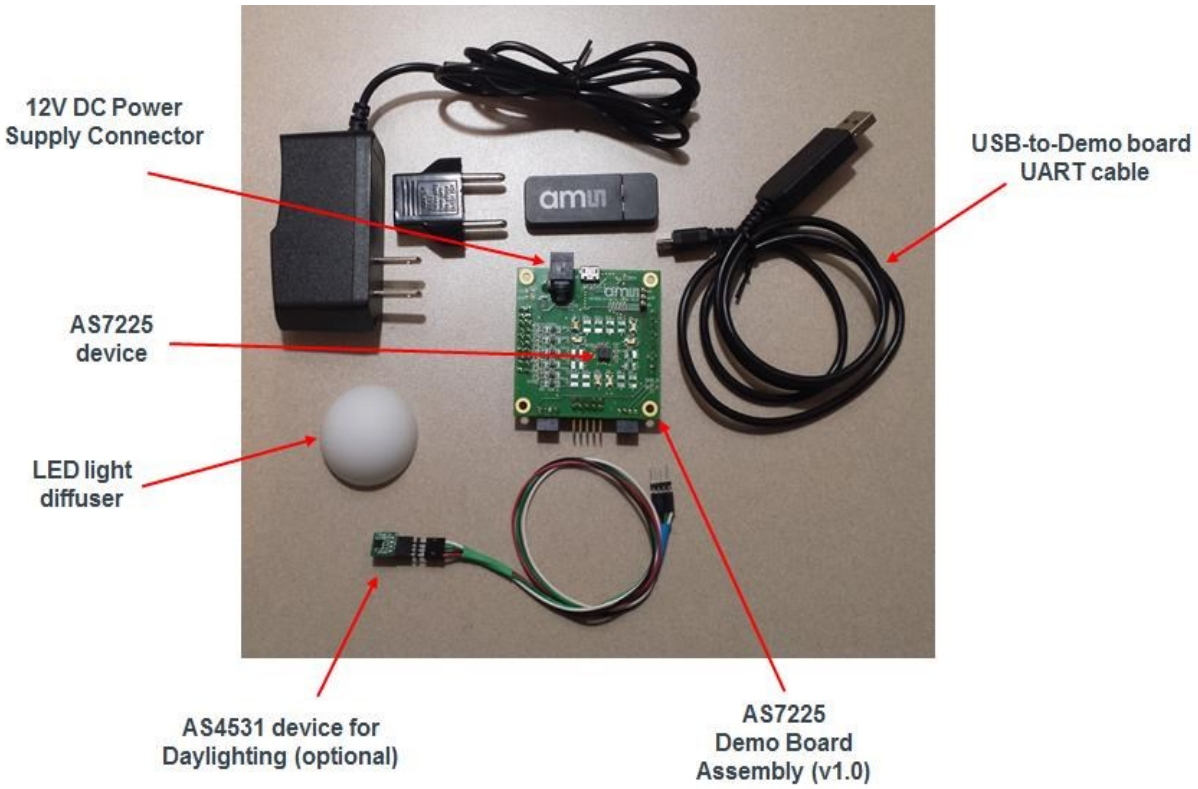
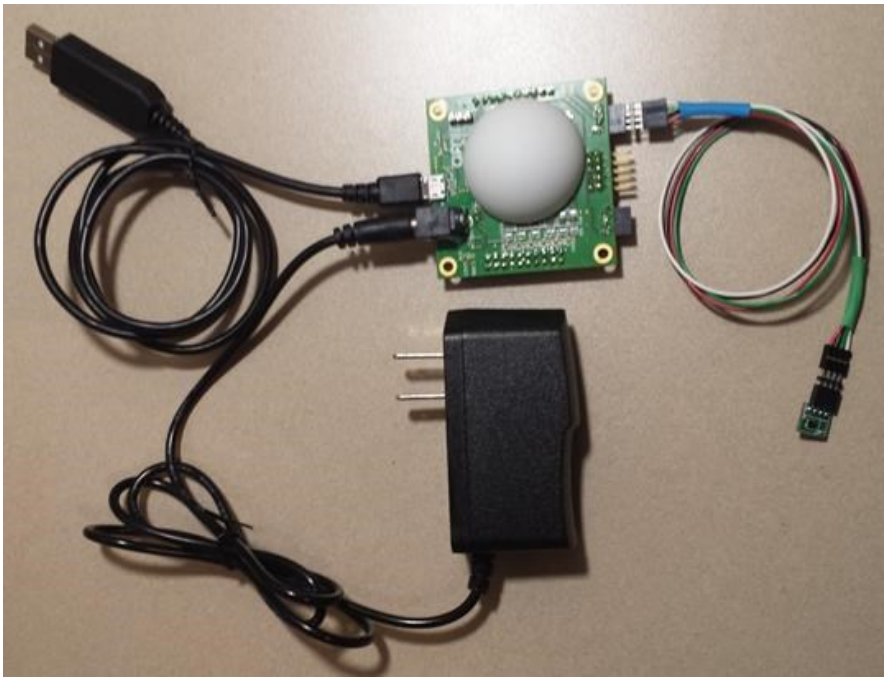
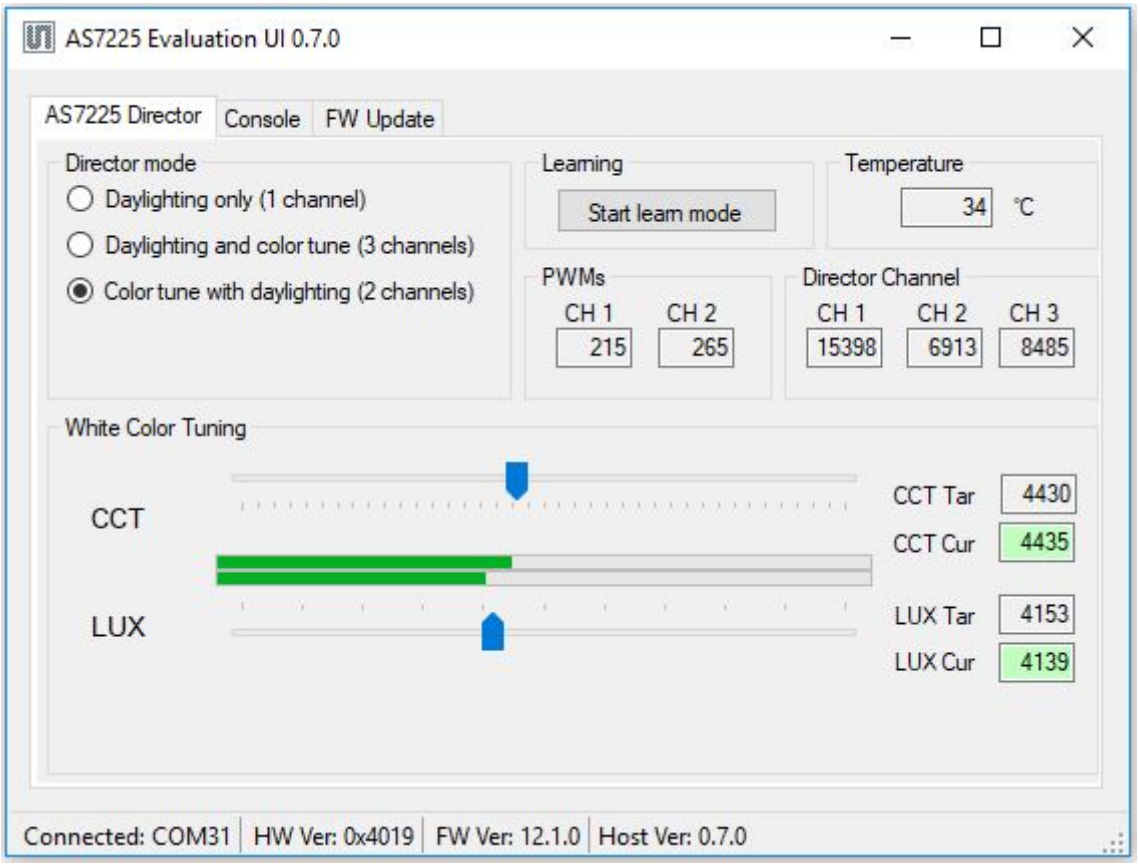


Figure 2. AS7225 Demo Setup - Ready to connect to AC power and PC



3 Details and operations of GUI parameters and functionalities

Figure 3. Evaluation UI – AS7225 Director Page



As shown above (Figure 3) the Director page shows interaction between the AS7225 and the Demo board's MCU. It should be noted that the demo UI communicates with the Demo board's MCU, and not directly with the AS7225, which is a slave device only. UI functions:

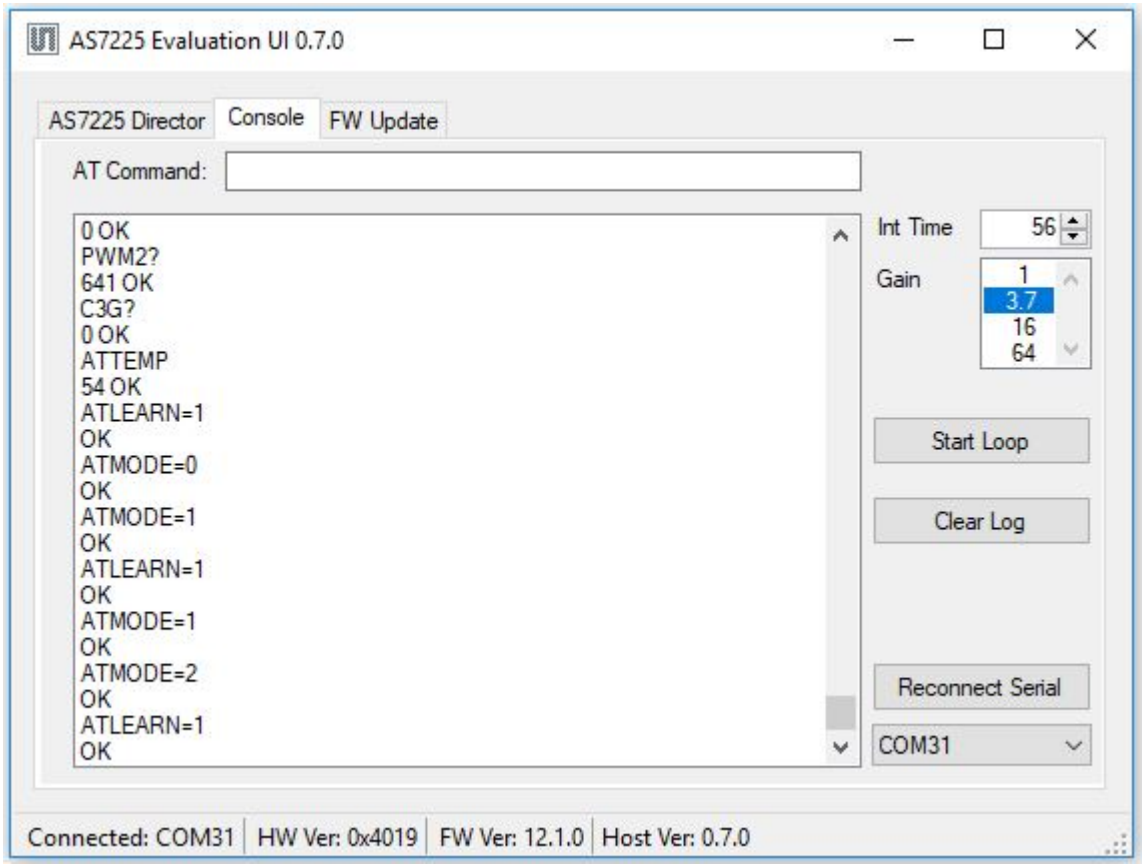
- UI instructs the MCU to turn on/off its AS7225-enabled Color Tuning (CT) or Daylighting (DL) functions
- UI user tells the MCU to use the slider chose values to set the AS7225 target LUX and CCT values. (Note: An initial change of LUX and CCT settings is required to begin tuning processes)
- AS7225 LUX and CCT Targets are displayed in LUX Tar and CCT Tar respectively
- PWMs CH1 will give the response of Warm light response and CH2 gives the cold light response.
- User can select director mode based on the Channels[1]
- Director channel CH1 gives details regarding Dimming and overall brightness. CH2 and CH3 gives details regarding string color tuning.[2]

1 Please refer the AS7225 Command DIR_CONF in excel file for more details

2 Please refer the AS7225 Command excel file for more details

- LUX Cur shows the real-time sensed LUX reading, and CCT Cur shows the real-time sensed CCT reading
- Start learn mode enables the channel learn mode. The maximum ratings will be saved internally. On software reset or power cycle the data will be available again and learn mode will be disabled
-

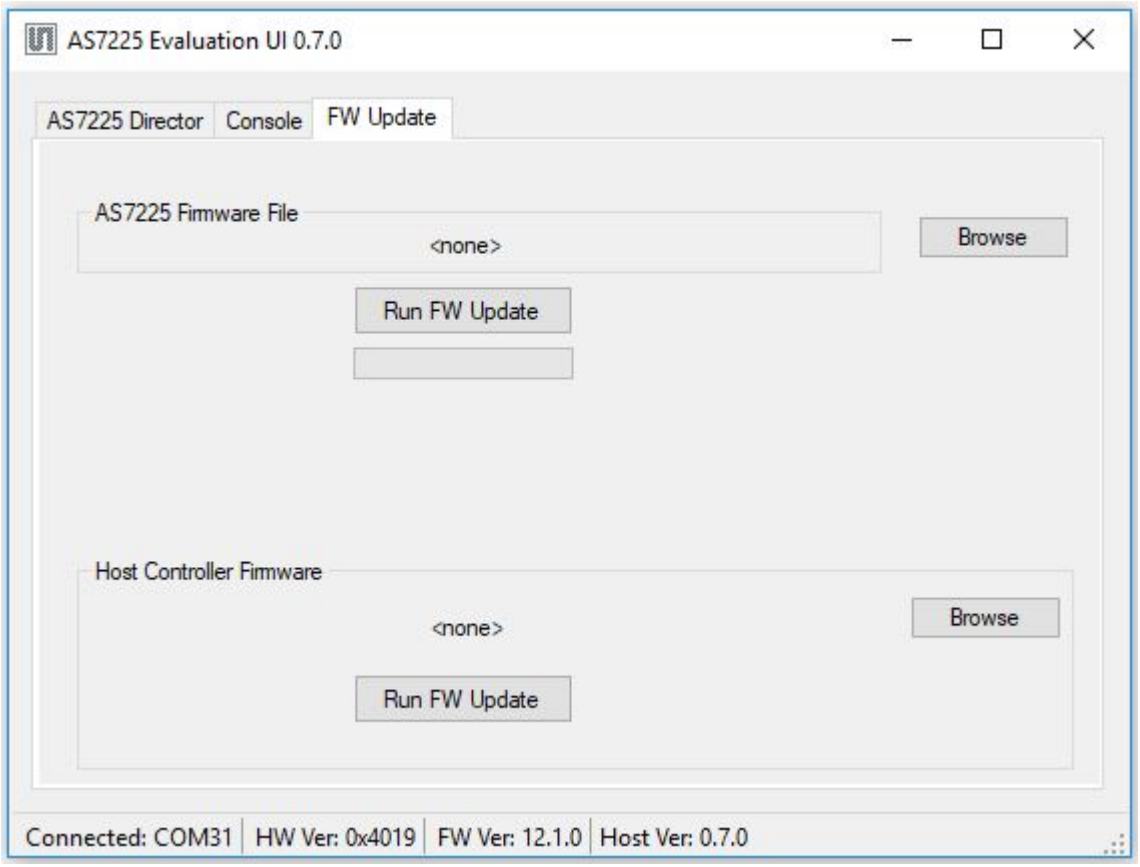
Figure 4. Evaluation UI – Console Page



Shown above (Figure 4) the Console page is used as follows:

- The “Start Loop” (or “Stop Loop” when started) controls looping of the on board MCU code. This looping code is an example, from the on board MCU, of how an external MCU interacts with the AS7225 for CCT and LUX operation. When the loop is off, AT Commands can be entered into the command line.
- Clear log clear the previous commands and data in log
- AS7225 sensor integration time (Int Time) and sensor gain (Gain) can also be controlled from this page.
- Using “Reconnect Serial” (and the associated pull-down menu) is not usually needed but can be used to select the appropriate pc COM interface if the Evaluation UI does not make the

Figure 5. Evaluation UI- FW update



For updating the firmware on the host controller and AS7225 sensor the FW Update page is used.

For details regarding the Firmware updating and flashing please refer to the “AS7225_Director_Demo _2V0_Flashing and Updating Firmware” document file.

4 Contact Information

Buy our products or get free samples online at:
www.ams.com/ICdirect

Technical Support is available at:
www.ams.com/Technical-Support

Provide feedback about this document at:
www.ams.com/Document-Feedback

For further information and requests, e-mail us at:
ams_sales@ams.com

For sales offices, distributors and representatives, please visit:
www.ams.com/contact

Headquarters
ams AG
Tobelbader Strasse 30
8141 Premstaetten
Austria, Europe

Tel: +43 (0) 3136 500 0
Website: www.ams.com

5 Copyrights & Disclaimer

Information in this document is believed to be accurate and reliable. However, ams AG does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.

Applications that are described herein are for illustrative purposes only. ams AG makes no representation or warranty that such applications will be appropriate for the specified use without further testing or modification. ams AG takes no responsibility for the design, operation and testing of the applications and end-products as well as assistance with the applications or end-product designs when using ams AG products. ams AG is not liable for the suitability and fit of ams AG products in applications and end-products planned.

ams AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data or applications described herein. No obligation or liability to recipient or any third party shall arise or flow out of ams AG rendering of technical or other services.

ams AG reserves the right to change information in this document at any time and without notice.

6 Revision Information

Changes from previous version to current revision 2-00 (2018-Jun-08)	Page
Added details and changes made in the new GUI	5-7
Described regarding new functions added in GUI	5-7

Note: Page numbers for the previous version may differ from page numbers in the current revision.
Correction of typographical errors is not explicitly mentioned.