

Introduction

The ALP Demo application is intended to show some of the functions of ViALUX V-Modules and the ALP API. It is supplied as a convenient test of the system functions. It is not intended to be used as a GUI or as a programming sample. For getting starts, please refer also to the EasyProj.exe that is included in the delivery package both binary and in source code.

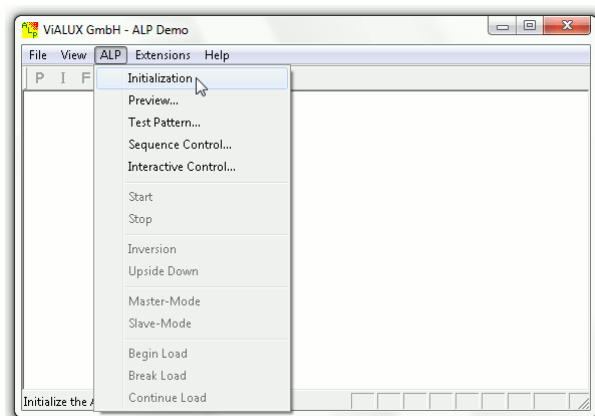
Features of the ALP Demo include:

- Display of binary and grayscale images
- Managing these images in ALP sequences
- ALP Timing setup
- LED control
- Setup of synchronization signals
- Compatibility: all ALP versions are supported by this application

Summary of ALP Demo functions – Image Display Walkthrough

Step 1: Open the “ALP high-speed Demo” from the Windows start menu.

Step 2: To control the ALP, you have to tell the software to connect to the ALP hardware. Connect the ALP by selecting “Initialization” from the pull down menu as first step. The initialization after power up may take several seconds.



Step 3: Next, you can look at the prepared sequences. Several sequences are generated at program start:

- 1 sequence with up to 5 images, loaded from files
- 2 binary sequences (Test Pattern, Spinning wheel) and
- 3 gray scaled sequences (Wedge - see-saw, Sine circles, Sine circles narrow)

After selecting *“Preview”* from the ALP pull down menu the *“Sequence Selection”* dialog box appears. Select the desired sequence and click OK. You can cycle through the individual pictures by pressing any key. Look at the Status Bar to check the picture numbers.

Step 4: Once the ALP device is initialized, the upload of sequence data to the ALP device memory starts. Watch the Status Bar to see the picture numbers count upwards. Additionally, some of the on-board LEDs are flashing during image data download. The 6 prepared sequences load into 7 memory locations, the *“Spinning wheel”* sequence is duplicated in reverse order for clockwise and counter-clockwise turn direction.

You can stop, continue, or restart the upload of sequence data to the ALP device memory. This is done by selecting the ALP pull down menu and selecting *“Break Load”*, *“Continue Load”*, or *“Begin Load”*.

Step 5: Now you can control the display of sequences at the DMD. This is done by selecting the ALP pull down menu and selecting *“Test Pattern”* and *“Sequence Control”*. You will be presented the *“Test Pattern”* and *“Sequence Control”* dialog boxes.

NOTE: You can see images on the DMD in ambient light. However, in STAR-07 or LED-OM devices the DMD is covered by the optics. They need to switch the LED on, see below: *“Controlling the ViALUX high-power LED Driver (HLD)”*.

Step 6: On the *“Test Pattern”* dialog box simply select one pattern by double-clicking on the desired list entry. The ALP device selects the second sequence (Test Pattern) and displays the chosen picture.

Step 7: On the left-hand side of the *“Sequence Control”* dialog box you can select the Spinning wheel sequences. Click the *“Clockwise”* option to change the turn direction. Use the slider to control the rotation speed.

On the right-hand side of the *“Sequence Control”* dialog box you can select the Sine circles sequences. Click the *“Narrow”* option to change the circle distance and phase shift direction. Use the slider to control the frame rate. You can reduce the resolution to reach higher frame rates.

To make the changes take effect click Assign (or press the return key). The ALP device selects the corresponding sequence and displays it in an infinite loop.

Step 8: You can load up to 5 images from file. This is done by selecting the “File” pull down menu and selecting “Open”. You will be presented the “Open Pattern File” dialog box. The images load to the first sequence. Consequently they can be uploaded quickly to the ALP device memory by selecting the ALP pull down menu and selecting “Begin Load”.

Note that the image loaded will not be automatically shown to programs output window. This has to be done with the “Preview” menu item described above.

Step 9: You can have access to each individual sequence and its images by means of the “Interactive Control” dialog box. This is done by selecting the ALP pull down menu and selecting “Interactive Control”. You can select one sequence and choose the frame range – even one single frame is possible. Use the slider to control the frame rate. You can reduce the resolution to reach higher frame rates.

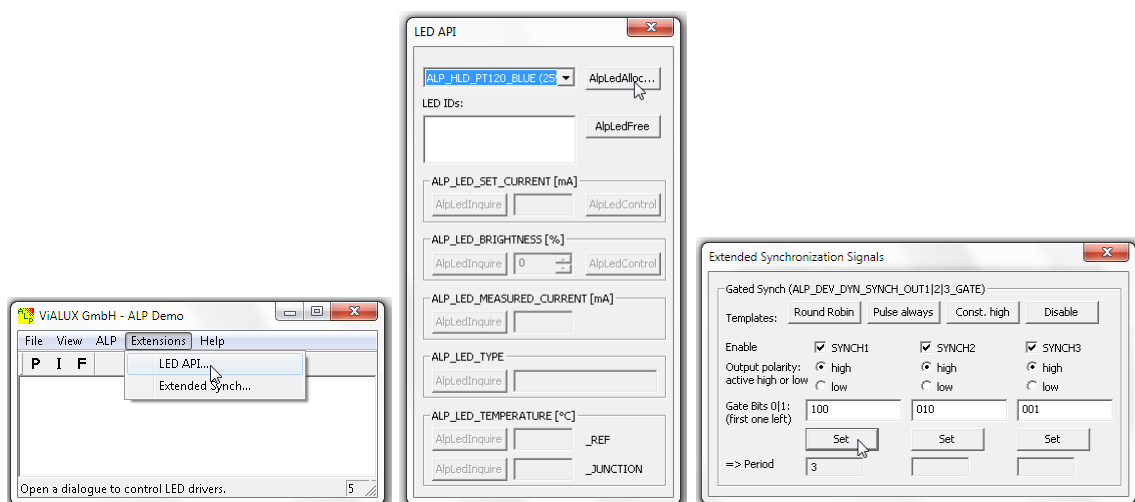
To make the changes take effect click Assign (or press the return key). The ALP device selects the corresponding sequence and displays it in an infinite loop.

Step 10: In order to finish you can clear the DMD display by selecting “Stop” from the ALP pull down menu.

Controlling ViALUX high-power LED Drivers (HLD)

The STAR-07 and LED-OM high-power LEDs are digitally controlled by the ALP software. The ALP Demo includes a dialog for controlling and monitoring the LED operation. It pops up by using the Extensions menu item LED API...

As the name suggests, it provides the features described in the ALP API LED section in a straight-forward manner. This way it is intended to improve the learning curve when using the STAR-07 projection modules in custom programs. Please see the ALP API description for details.



STAR-07 modules are available in single-color and multi-color versions. The Multi-Color version additionally requires configuration of extended synchronization signals. Therefore please use the Extensions menu. Press F1 for short help and again, refer to the ALP API description for details.

In STAR-07 devices SYNCH_OUT3 is connected as LED Enable signal. It can be permanently switched on using the following setting: Enable SYNCH3, polarity active=low, gate bits=0, i.e. always inactive, high.