



## User's manual

# USB13700 demo system for Planar's EL SGD Displays

Planar Systems  
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### OVERVIEW

The USB13700 demo system contains the following:

- USB13700 board
- USB cable with USB A and Mini B plugs
- Display cable
- EU Power cord
- Power supply
- Demo program CD

The USB13700 demo system is designed for EL display demonstration purposes. The demo system requires a standard PC with Windows XP SP3 or Windows 7 operating system and a USB port.

The demo system is able to show bitmap images and text files on a choice of several Planar EL displays.

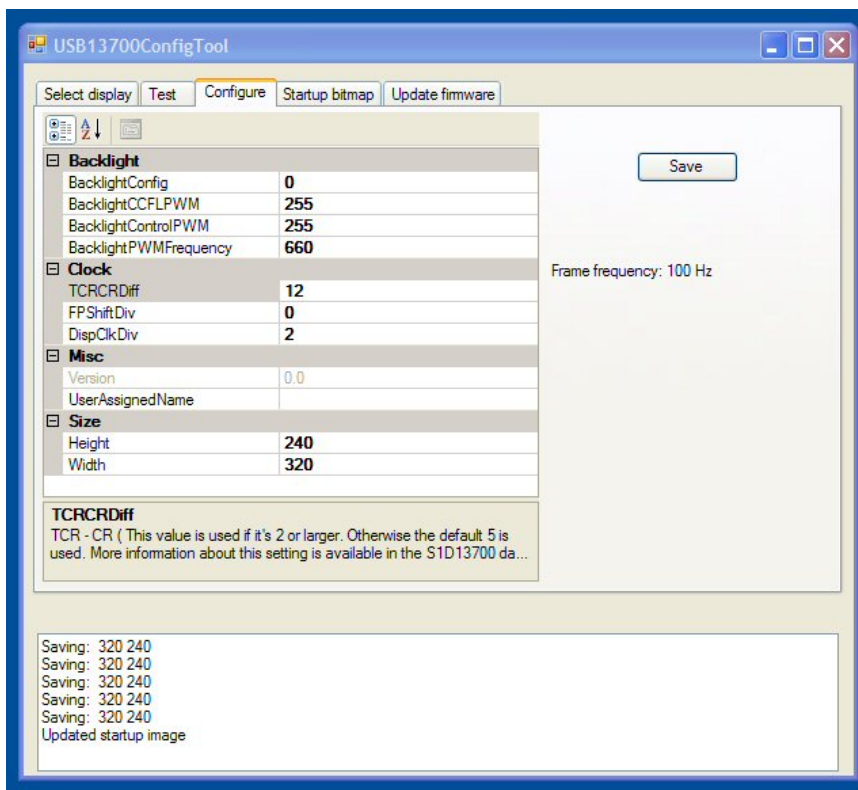
The USB13700 demo system supports the following EL displays:

- EL160.80.50
- ELT160.80.50
- EL160.120.39
- EL320.240.36
- EL320.240.36-HB

## **INSTALLATION PROCEDURE**

All needed programs are on the USB13700 demo system CD.

1. Install the following programs:
  - a) Microsoft Visual C++ 2010 Redistributable Package
  - b) USB13700 Configuration tool and drivers. Configuration tool and USB drivers are in the same file.
2. Connect all cables and the EL display to the USB13700 board and connect power to the USB13700 board. The PC should recognize the USB13700 board. In case the USB13700 board is not recognized, reboot the PC.
3. Install drivers as requested.
4. Start USB13700 configuration tool.
  - a) - Select the Select Display tab and press detect displays button.
    - The configuration tool should detect the USB13700 board.
  - b) - Select Configure display and check that the Clock and Size settings are same as below.
    - Press the Save button if any changes were made.
  - c) - Close USB13700 configuration tool.



These settings in the picture above are correct for all supported EL displays. The correct setup resolution for all supported displays is 320 x 240.

The display demo program is able to show the approximate frame-frequency for the connected EL displays by using these settings.

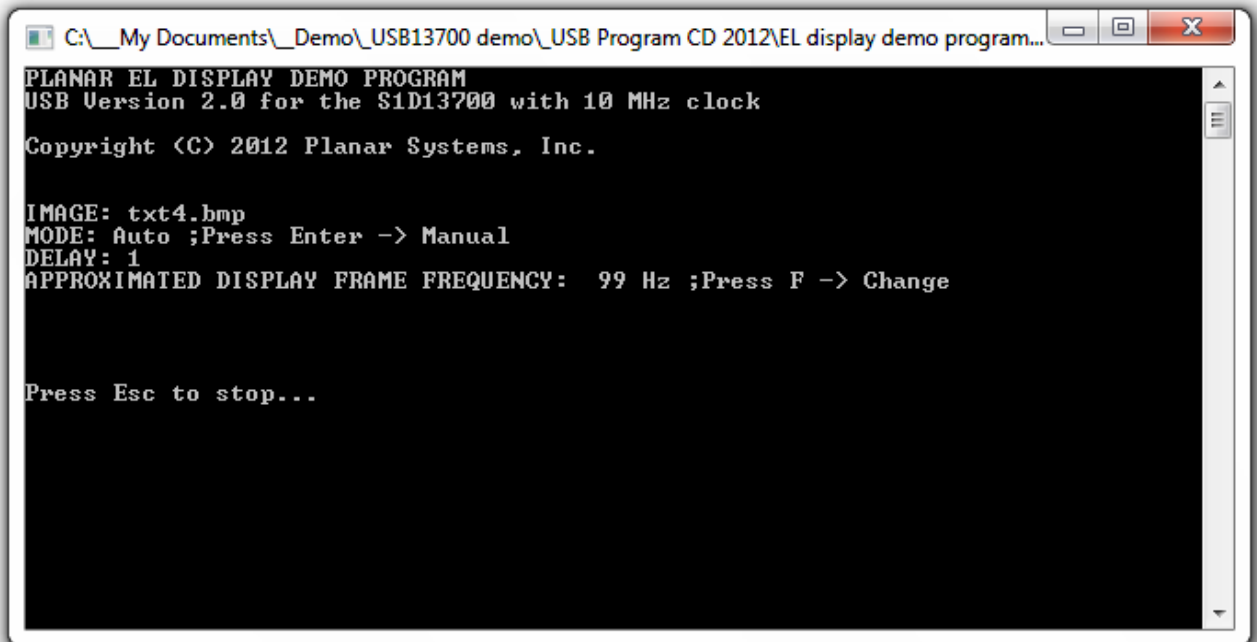
There is no need to make display-specific settings. No other configuration settings with the ConfigTool program are needed.

5. Copy all display demo programs from the CD to a sub-directory on the hard disk drive or run the demo programs directly from the CD.

Start the EL display demo program (exe-file) in the sub directory that has same name as the connected display model.

## **EL DISPLAY DEMO PROGRAM FILES**

### **EL Demo program**



```
C:\_My Documents\_Demo\_USB13700 demo\_USB Program CD 2012\EL display demo program...
PLANAR EL DISPLAY DEMO PROGRAM
USB Version 2.0 for the S1D13700 with 10 MHz clock
Copyright (C) 2012 Planar Systems, Inc.

IMAGE: txt4.bmp
MODE: Auto ;Press Enter -> Manual
DELAY: 1
APPROXIMATED DISPLAY FRAME FREQUENCY: 99 Hz ;Press F -> Change

Press Esc to stop...
```

The EL display demo program contains in a folder for every supported EL display:

- The executable file of the program
- D\_script.txt
- para.txt
- demo image examples
- text file examples

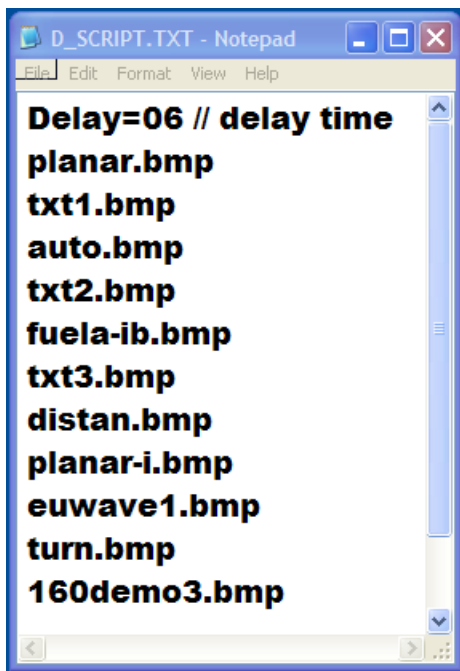
All these files need to be in the same subdirectory. The EL display demo program reads bitmap images and text files from the mass storage and writes these to the USB13700 board via the USB port of the PC.

The program supports only 5 x 7 pixel characters. The width and height of the bitmap image must be exactly the same as the matrix size of the display and the image has to be a black and white 32-bit image without any gray shades.

The EL display demo program shows the name of the image or text file that is currently on the EL display screen. The images and text files change automatically in a loop as defined in the D\_script.txt file. The images and text files on the EL display screen can also be changed manually by pressing the “enter key”.

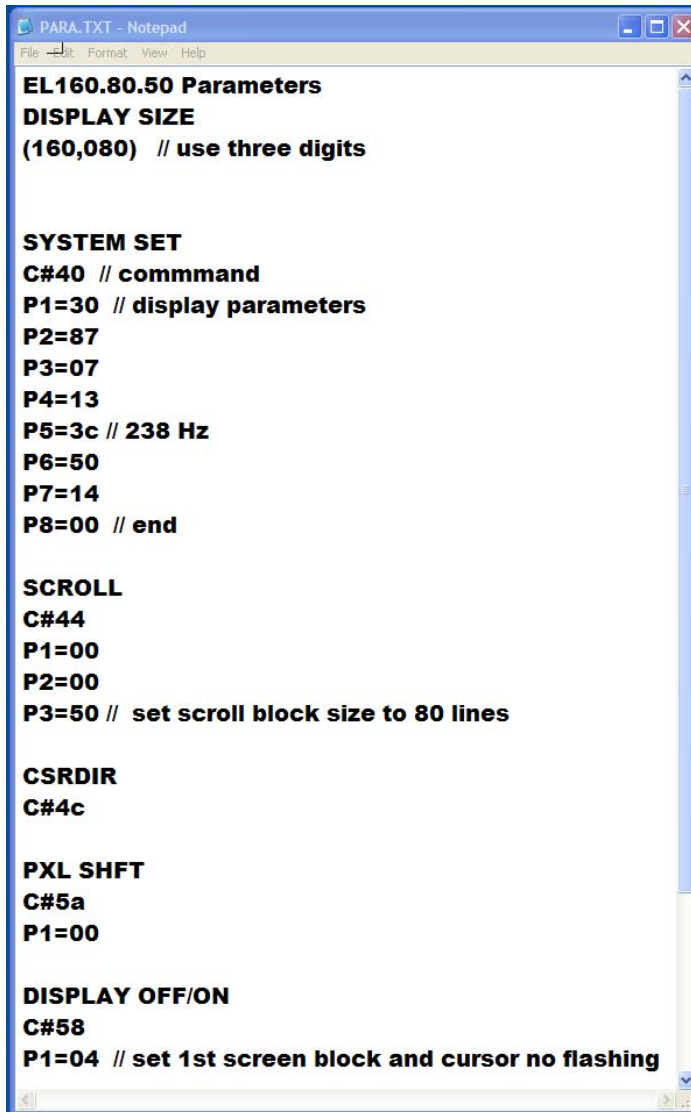
The brightness of the EL display can be changed by changing the frame-frequency with the program. The EL display brightness is directly proportional to the frame-frequency; a higher frame-frequency results in a higher brightness display and respectively a lower frequency results in lower brightness. An exception to this is the EL320.240.36-HB display, which brightness cannot be changed by using this program feature as this display’s brightness is independent of the supplied timing.

#### D\_script.txt file



The D\_script.txt file includes a list of demo images and text files. If the image or the text is not found, the program displays an error message on the screen and halts execution. The first line of the file shows the delay time between images and text files. This delay time must have two digits. The allowed delay time is 01 - 99 seconds. If the time parameter is not correct, the program uses an 8 seconds delay time.

## Para.txt file



```
PARA.TXT - Notepad
File Edit Format View Help
EL160.80.50 Parameters
DISPLAY SIZE
(160,080) // use three digits

SYSTEM SET
C#40 // command
P1=30 // display parameters
P2=87
P3=07
P4=13
P5=3c // 238 Hz
P6=50
P7=14
P8=00 // end

SCROLL
C#44
P1=00
P2=00
P3=50 // set scroll block size to 80 lines

CSRDIR
C#4c

PXL SHFT
C#5a
P1=00

DISPLAY OFF/ON
C#58
P1=04 // set 1st screen block and cursor no flashing
```

The para.txt file includes parameters for the program and the display. The matrix size of the display (W, H) is inside parenthesis and comma separates width and height of the display. The width and height numbers must have three digits.

The display controller commands are marked with the number sign (#) and the parameters are marked with the equal character (=). The USB13700 demo program reads all commands and parameters that are in the para.txt file and writes them to the display controller card. All above used signs and characters are reserved for use with the USB13700 commands and parameters and should not be changed.