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EA DOG-Simulator manual

Mai 2013
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1 General

DOG-Simulator "StartDog.exe"

The program „[StartDog.exe](#)^[4]“ simulates all displays from EA DOG series and th EA eLABEL20-A. Display setting will be done via menu [Module](#)^[7] . The menu [Glass](#)^[8] and [Led](#)^[9] selects one of various types. This does mean that with this little program all display types and colors can be simulated. This simulator can be used alone but also together with our Test- and Demoboard [EA 9780-3USB](#)^[12].

Test-Board "EA 9780-3USB"

For easy startup, a USB test board [EA 9780-3USB](#)^[12] is available that can be connected to a PC. All displays from EA DOG series will put into operation in a flash. There is no hardware or software knowlegde necessary. The program „[StartDog.exe](#)^[4]“ runs also with a connected [EA 9780-3USB](#)^[12]. Text and pictures (BMP) can be shown directly on the connected display.



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<http://www.lcd-module.de>

2 DOG Simulator

2.1 StartDog.exe V3.0

EA DOG Simulator

StartDog.exe V3.0



You can download the DOG Simulator Software V3.0 free of charge from our Homepage as a .zip file. After unzip you easily can start our StartDog Simulator with a double click on the startdog.exe. It starts up immediately with a windows frame and a tool bar with 5 pull down buttons:

[File](#)^[5] [Module](#)^[7] [Glass](#)^[8] [Led](#)^[9] [Help](#)^[11]

2.2 File

Under the **File** Pull DownButton you can select special functions in four sections:



Open File

Open the File-Dialogbox where you can choose a text or graphic file;

Power on Reset

Makes a Reset to the external display, if it is connected with our test board [EA 9780-3USB^{\[12\]}](#) to the USB I/F of the computer; After the Reset the module gets new initializing and the cursor moves to the left upper position, ready to write text to the display from the PC keyboard;

Demo

Starts a Demo with four alternating contents on the screen and optional on the display plugged to our [EA 9780-3USB^{\[12\]}](#);

Clear Display

Clears the display and the cursor moves to the left upper position, ready to write text to the display from the PC keyboard;

Show Window

Shows or hides the frame of the DOG Simulation on the PC screen; When the frame with the menu is hidden you can find the menu with a right mouse click in the display area;

Always on Top

The Window of the DOG-Simulator always stays in front of the other software pages, whatever page or other Software you are opening;

Minimize to Tray

Hides the DOG window from the window screen into a small symbol in the tool bar; The [EA 9780-3USB^{\[12\]}](#) is still

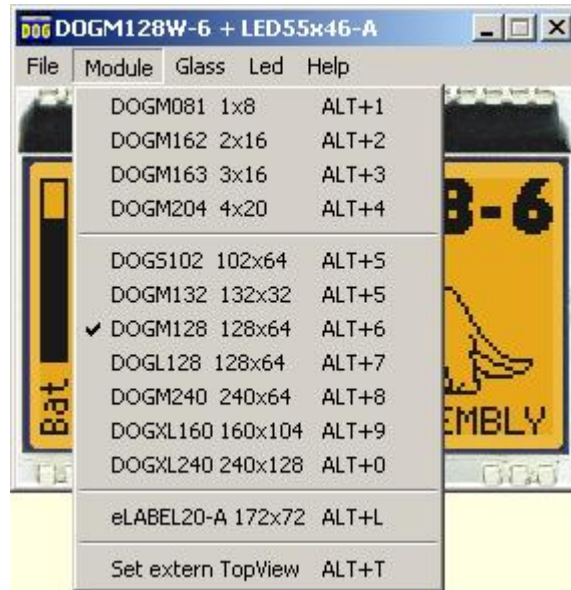
working as before.

Exit

Stores display organization, display type, color of backlight and contrast that had been changed in the last session and closes the application;

2.3 Module

Under the **Module** Pull Down Button you can select different display organisations in two sections:



| | |
|---------------------|------------------------|
| DOGM081 1x8 | 1 line with 8 digits |
| DOGM162 2x16 | 2 lines with 16 digits |
| DOGM163 3x16 | 3 lines with 16 digits |
| DOGM204 4x20 | 4 lines with 20 digits |

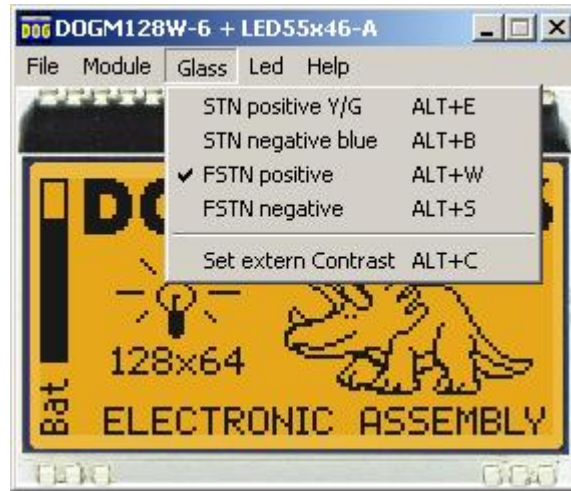
| | |
|-------------------------|--------------------------------|
| DOGS102 102x64 | Graphicdisplay 102 by 64 dots |
| DOGM132 132x32 | Graphicdisplay 132 by 32 dots |
| DOGM128 128x64 | Graphicdisplay 128 by 64 dots |
| DOGL128 128x64 | Graphicdisplay 128 by 64 dots |
| DOGM240 240x64 | Graphicdisplay 240 by 64 dots |
| DOGXL128 160x104 | Graphicdisplay 160 by 104 dots |
| DOGXL240 240x128 | Graphicdisplay 240 by 128 dots |

| | |
|--------------------------|-----------------------------------|
| eLABEL20-A 172x72 | intelligent ePaper 172 by 72 dots |
|--------------------------|-----------------------------------|

| | |
|---------------------------|--|
| Set extern TopView | If a graphic display is connected with our demo- and test board EA 9780-3USB ^[12] to the USB I/F of the computer, content will be rotated by 180°; otherwise this option is grayed-out. |
|---------------------------|--|

2.4 Glass

Under the **Glass** Pull Down Button you have the choice to select different LCD display technologies in two sections:



STN positive Y/G
STN negative blue
FSTN positive
FSTN negative

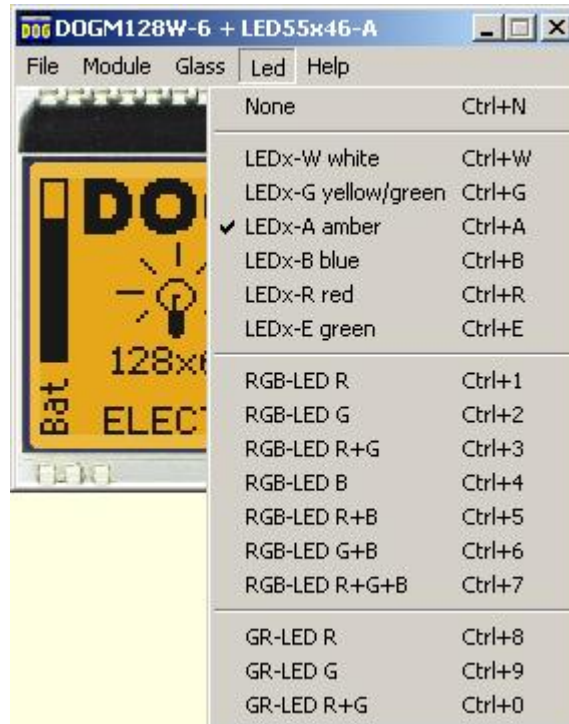
Black letters on background like backlight with Y/G shade;
 Letters like backlight with blue or dark background;
 Black letters on background like backlight;
 Letters like backlight with black background;

Set extern Contrast

If a display is connected with our test board [EA 9780-3USB](#)^[12] to the USB I/F of the computer; A window with a sliding resistor is opened on the monitor and you can move it with the mouse; A second click on this label closes the sliding resistor window. Note: Setting will be stored after closing the Simulator;

2.5 Led

Under the **Led** Pull Down Button you have the choice to select different LED backlight colors in three sections:



In the first section only **None** can be clicked, this is mainly for a reflective LCD Glass or for the appearance of any other Glass when the backlight is switched off (e.g. for a power safe mode); When [EA 9780-3USB](#)^[12] is connected also the backlight of this display is switched off;

In the second section you can select the single color backlights white, yellow/green, amber, blue, red and green; The backlight of a connected [EA 9780-3USB](#)^[12] naturally can not change;

In the third section you can select all the combinations when you are using a full color RGB backlight system

(Please note that you need to change the [DIP-Switches](#)^[13] on the [EA 9780-3USB](#)^[12] for usage with the RGB-backlight):

| | |
|----------------------|--|
| RGB-LED R | only the red LED of 3-color backlight is on; |
| RGB-LED G | only the green LED of 3-color backlight is on; |
| RGB-LED R+G | only the red and green LED of 3-color backlight are on; |
| RGB-LED B | only the blue LED of 3-color backlight is on; |
| RGB-LED R+B | only the red and blue LED of 3-color backlight are on; |
| RGB-LED G+B | only the green and blue LED of 3-color backlight are on; |
| RGB-LED R+G+B | all 3 LED of 3-color backlight are on; |

In the fourth section you can select all the combinations when you are using a duo color GR backlight system (Please note that you need to change the [DIP-Switches](#)¹³ on the [EA 9780-3USB](#)¹² for usage with the GR-backlight):

| | |
|-------------------|--|
| GR-LED R | only the red LED of 2-color backlight is on; |
| GR-LED G | only the green LED of 2-color backlight is on; |
| GR-LED R+G | all 2 LED of 2-color backlight are on; |

Basically every EA DOG LCD glass can be combined with every LED backlight system, if it is selectable;

But you will see very soon that not all combinations do make sense.

2.6 Help

Under the **Help** Pull Down Button you have the choice to select this Help-text or an info box:



Help

This click shows you the Help-File;

About

This click shows you the software version of the DOG Simulator and whether the USB-Board is successfully connected to the PC;



3 EA 9780-3USB

3.1 Features

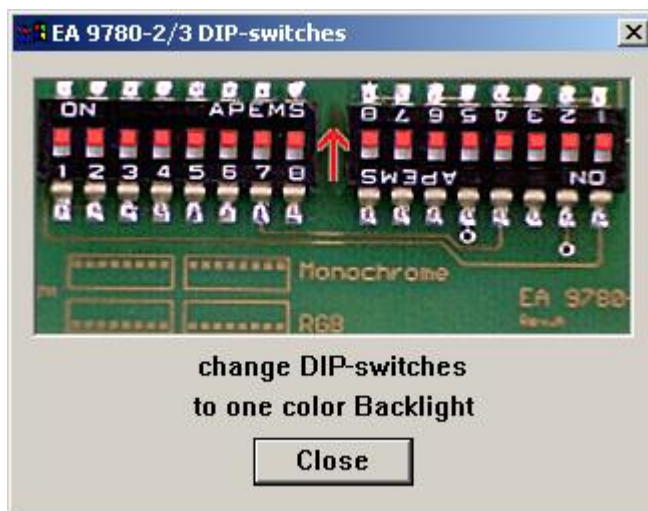
With that test board all displays from EA DOG series and EA eLABEL20 will put into operation in a flash. There is no hardware or software knowledge necessary. The included USB cable performs easily the connection to the PC. Text and pictures (BMP) can be shown direct on the connected display.

- * Connection to USB: simple Usage
- * Good for all EA DOG Modules and EA eLABEL20
- * no power supply necessary
- * with demo-text and demo-pictures
- * individual text and pictures are supported also
- * LED driving circuit integrated
- * switch on and off LED backlight
- * inclusive USB cable (1.5m)

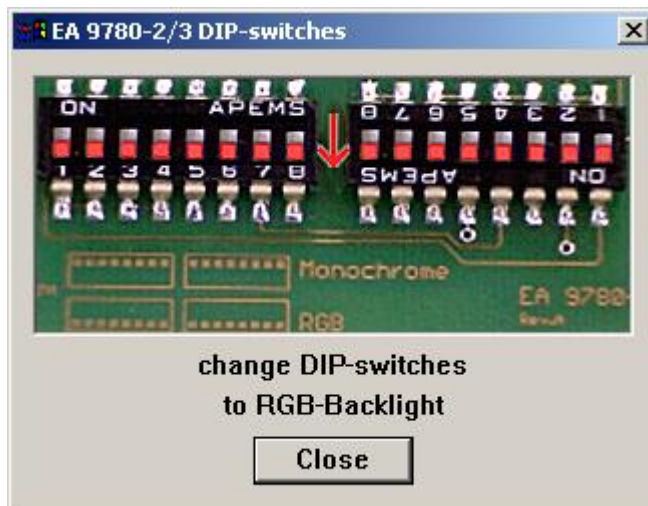
3.2 LED-backlight

The board EA 9780-3USB is ready to use for all LED backlights.

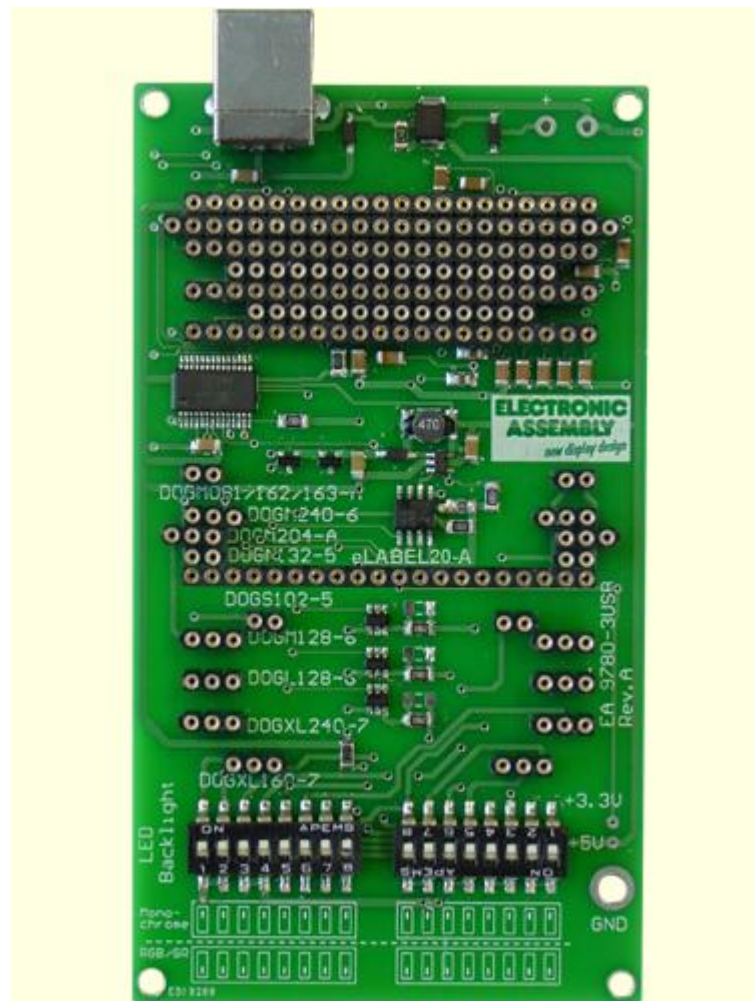
To operate the single-color LED versions white, yellow/green, amber, blue, red or green
the DIP-switches must be changed to top position:



To operate the full-color RGB version EA LEDxxx-RGB or duo-color version EA LEDxxx-GR
the DIP-switches must be changed to bottom position:



3.3 9780-3 EMPTY



EMPTY - eLABEL20¹⁵⁾

DOGM081¹⁶⁾ - DOGM162¹⁷⁾ - DOGM163¹⁸⁾ - DOGM204¹⁹⁾
DOGS102²⁰⁾ - DOGM132²¹⁾ - DOGM128²²⁾ - DOGL128²³⁾
DOGM240²⁴⁾ - DOGXL160²⁵⁾ - DOGXL240²⁶⁾

3.4 9780-3 eLABEL20



[EMPTY](#)¹⁴ - eLABEL20
[DOGM081](#)¹⁶ - [DOGM162](#)¹⁷ - [DOGM163](#)¹⁸ - [DOGM204](#)¹⁹
[DOGS102](#)²⁰ - [DOGM132](#)²¹ - [DOGM128](#)²² - [DOGL128](#)²³
[DOGM240](#)²⁴ - [DOGXL160](#)²⁵ - [DOGXL240](#)²⁶

3.5 9780-3 DOGM081



EMPTY^[14] - eLABEL20^[15]
 DOGM081 - DOGM162^[17] - DOGM163^[18] - DOGM204^[19]
 DOGS102^[20] - DOGM132^[21] - DOGM128^[22] - DOGL128^[23]
 DOGM240^[24] - DOGXL160^[25] - DOGXL240^[26]

3.6 9780-3 DOGM162



[EMPTY](#)^[14] - [eLABEL20](#)^[15]
[DOGM081](#)^[16] - [DOGM162](#) - [DOGM163](#)^[18] - [DOGM204](#)^[19]
[DOGS102](#)^[20] - [DOGM132](#)^[21] - [DOGM128](#)^[22] - [DOGL128](#)^[23]
[DOGM240](#)^[24] - [DOGXL160](#)^[25] - [DOGXL240](#)^[26]

3.7 9780-3 DOGM163



[EMPTY](#)^[14] - [eLABEL20](#)^[15]
[DOGM081](#)^[16] - [DOGM162](#)^[17] - [DOGM163](#) - [DOGM204](#)^[19]
[DOGS102](#)^[20] - [DOGM132](#)^[21] - [DOGM128](#)^[22] - [DOGL128](#)^[23]
[DOGM240](#)^[24] - [DOGXL160](#)^[25] - [DOGXL240](#)^[26]

3.8 9780-3 DOGM204



[EMPTY](#)^[14] - [eLABEL20](#)^[15]
[DOGM081](#)^[16] - [DOGM162](#)^[17] - [DOGM163](#)^[18] - [DOGM204](#)
[DOGS102](#)^[20] - [DOGM132](#)^[21] - [DOGM128](#)^[22] - [DOGL128](#)^[23]
[DOGM240](#)^[24] - [DOGXL160](#)^[25] - [DOGXL240](#)^[26]

3.9 9780-3 DOGS102



[EMPTY](#)^[14] - [eLABEL20](#)^[15]
[DOGM081](#)^[16] - [DOGM162](#)^[17] - [DOGM163](#)^[18] - [DOGM204](#)^[19]
[DOGS102](#) - [DOGM132](#)^[21] - [DOGM128](#)^[22] - [DOGL128](#)^[23]
[DOGM240](#)^[24] - [DOGXL160](#)^[25] - [DOGXL240](#)^[26]

3.10 9780-3 DOGM132



EMPTY¹⁴ - eLABEL20¹⁵
DOGM081¹⁶ - DOGM162¹⁷ - DOGM163¹⁸ - DOGM204¹⁹
DOGS102²⁰ - DOGM132 - DOGM128²² - DOGL128²³
DOGM240²⁴ - DOGXL160²⁵ - DOGXL240²⁶

3.11 9780-3 DOGM128



[EMPTY](#)^[14] - [eLABEL20](#)^[15]
[DOGM081](#)^[16] - [DOGM162](#)^[17] - [DOGM163](#)^[18] - [DOGM204](#)^[19]
[DOGS102](#)^[20] - [DOGM132](#)^[21] - [DOGM128](#) - [DOGL128](#)^[23]
[DOGM240](#)^[24] - [DOGXL160](#)^[25] - [DOGXL240](#)^[26]

3.12 9780-3 DOGL128



[EMPTY](#)¹⁴ - [eLABEL20](#)¹⁵
[DOGM081](#)¹⁶ - [DOGM162](#)¹⁷ - [DOGM163](#)¹⁸ - [DOGM204](#)¹⁹
[DOGS102](#)²⁰ - [DOGM132](#)²¹ - [DOGM128](#)²² - [DOGL128](#)
[DOGM240](#)²⁴ - [DOGXL160](#)²⁵ - [DOGXL240](#)²⁶

3.13 9780-3 DOGM240



EMPTY¹⁴ - eLABEL20¹⁵
 DOGM081¹⁶ - DOGM162¹⁷ - DOGM163¹⁸ - DOGM204¹⁹
 DOGS102²⁰ - DOGM132²¹ - DOGM128²² - DOGL128²³
 DOGM240 - DOGXL160²⁵ - DOGXL240²⁶