EA DOG-Simulator manual

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1 General

DOG-Simulator "StartDog.exe"

The program „StartDog.exe 4" simulates all displays from EA DOG series and the EA eLABEL20-A. Display setting will be done via menu Module 7 . The menu Glass 9 and Led 10 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 9780-4USB 14.

Test-Board "EA 9780-4USB"

For easy startup, a USB test board EA 9780-4USB 14 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 9780-4USB 14. Text and pictures (BMP) can be shown directly on the connected display.

Zeppelinstrasse 19, D-82205 Gilching
Phone +49-8105-778090, Fax +49-8105-778099
http://www.lcd-module.de

2 DOG Simulator

2.1 StartDog.exe V4.5

EA DOG Simulator

StartDog.exe V4.5

You can download the DOG Simulator Software V4.5 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 9 Led 10 Help 12

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 9780-4USB 14 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 9780-4USB 14;

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;

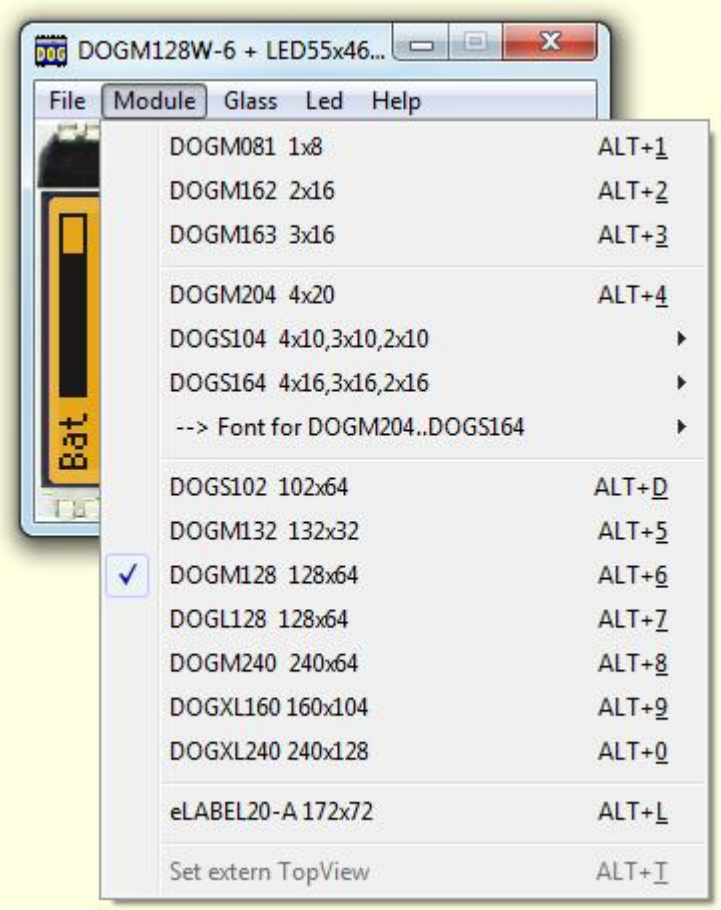
Always on Top — The Window of the DOG-Simulator always stays in front of the other software pages, whatever page or other Software you are opening;

Minimize to Tray Hides the DOG window from the window screen into a small symbol in the tool bar; The EA 9780-4USB 14 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
DOGS104 4x10	4/3/2 lines with 10 digits
DOGS164 4x16	4/3/2 lines with 16 digits
Font for DOGM204..DOGS164	switch between ROMA-european, ROMB-cyrillic and ROMC-japanese

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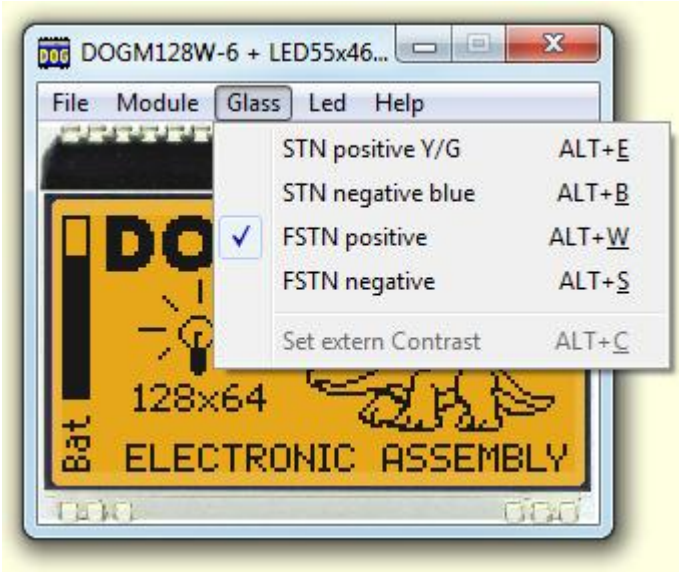
DOGS102 102x64	Graphicdisplay 102 by 64 dots
DOGM132 132x32	Graphicdisplay 132 by 32 dots
DOGM128 128x64	Graphicdisplay 128 by 64 dots
DOGL128 128x64	Graphicdisplay 128 by 64 dots
DOGM240 240x64	Graphicdisplay 240 by 64 dots
DOGXL128 160x104	Graphicdisplay 160 by 104 dots
DOGXL240 240x128	Graphicdisplay 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 9780-4USB 14 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	Black letters on background like backlight with Y/G shade;
STN negative blue	Letters like backlight with blue or dark background;
FSTN positive	Black letters on background like backlight;
FSTN negative	Letters like backlight with black background;

Set extern Contrast	If a display is connected with our test board EA 9780-4USB 14 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 9780-4USB 14 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 9780-4USB 14 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[15] on the EA 9780-4USB[14] 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[15] on the EA 9780-4USB[14] 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;

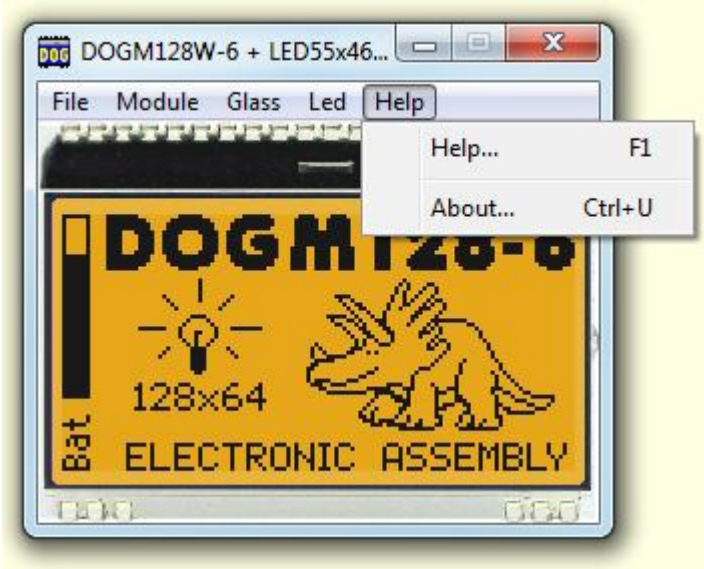
In the fifth section you can select all the combinations when you are using a three color ERW backlight system (Please note that you need to change the DIP-Switches[15] on the EA 9780-4USB[14] for usage with the ERW-backlight):

ERW-LED E	only the green LED of 3-color backlight is on;
ERW-LED R	only the red LED of 3-color backlight is on;
ERW-LED E+R	the green and red LED of 3-color backlight are on;
ERW-LED W	the white LED of 3-color backlight is 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 9780-4USB

Enter topic text here.

3.1 Features

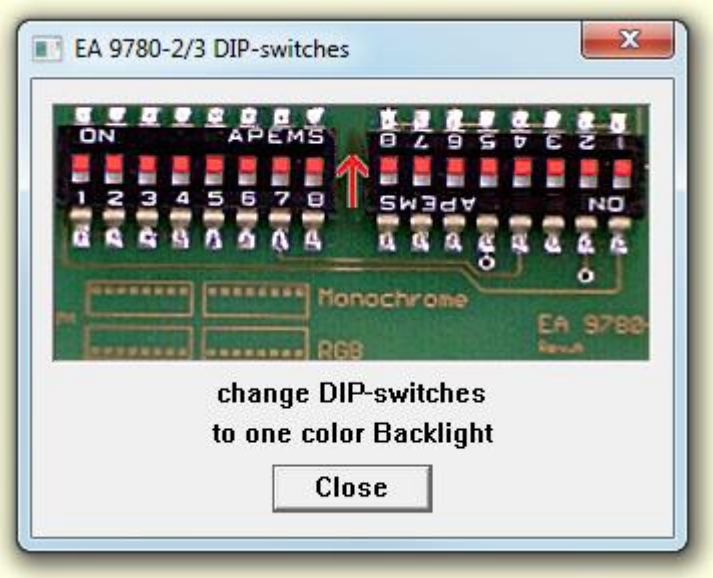
With that test board all displays from EA DOG series and EA eLABEL20 will put into operation in a flash. There is no hardware or software knowlegde necessary. The included USB cable performs easyly the connection to the PC. Text and pictures (BMP) can be shown direct on the connected display.

* 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)

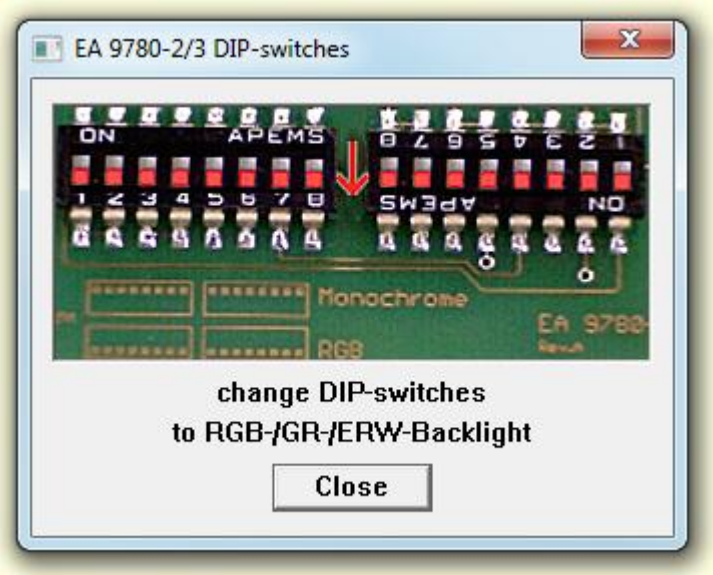
3.2 LED-backlight

The board EA 9780-4USB is ready to use for all LED backlights.

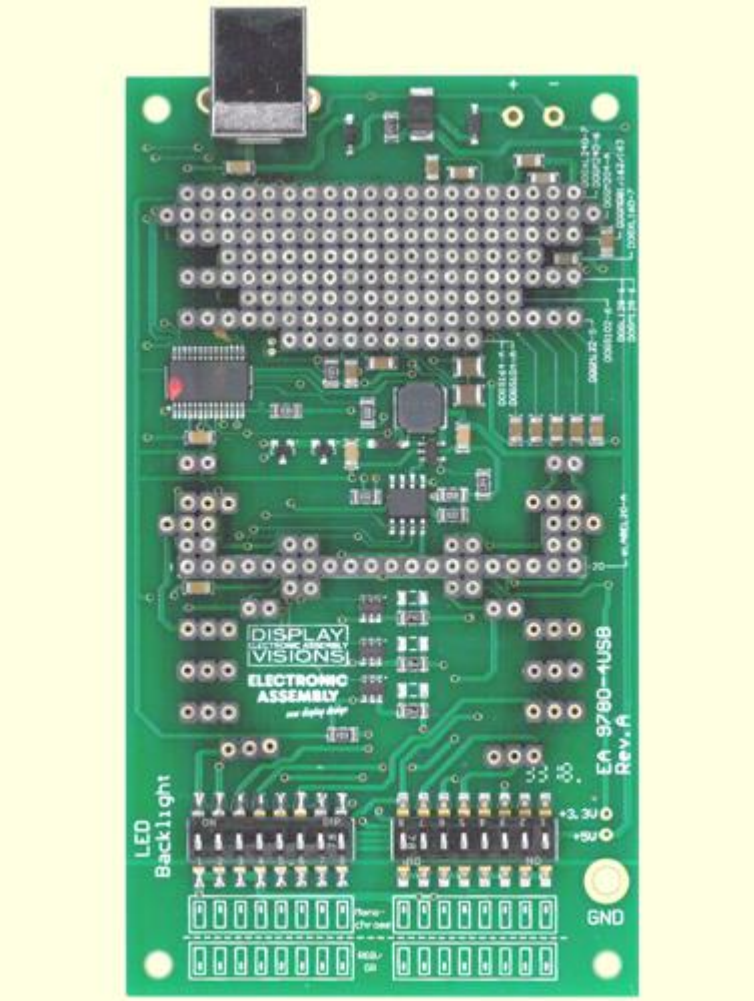
To operate the single-color LED versions white, yellow/green, amber, blue, red or green
the DIP-switches must be changed to top position:



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



3.3 9780-4 EMPTY



EMPTY - eLABEL20 [17]
DOGM081 [18] - DOGM162 [19] - DOGM163 [20]
DOGM204 [21] - DOGS104 [22] - DOGS164 [23] - DOGS102 [24]
DOGM132 [25] - DOGM128 [26] - DOGL128 [27] - DOGM240 [28]
DOGXL160 [29] - DOGXL240 [30]

3.4 9780-4 eLABEL20

EMPTY 16 - eLABEL20
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.5 9780-4 DOGM081

EMPTY 16 - eLABEL20 17
DOGM081 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

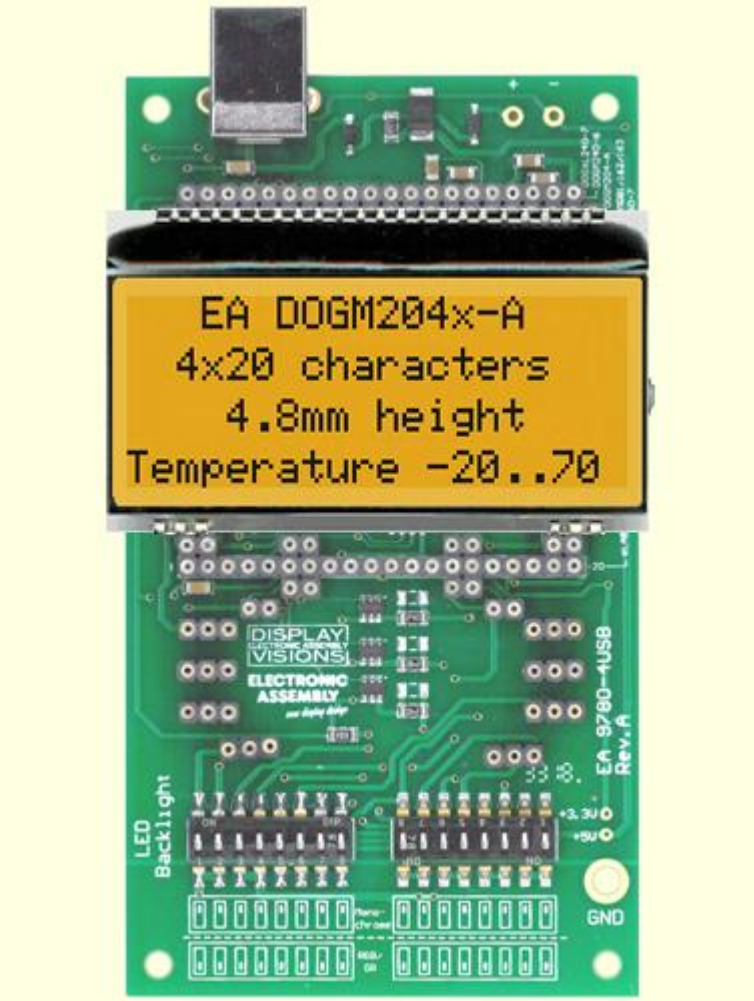
3.6 9780-4 DOGM162

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.7 9780-4 DOGM163

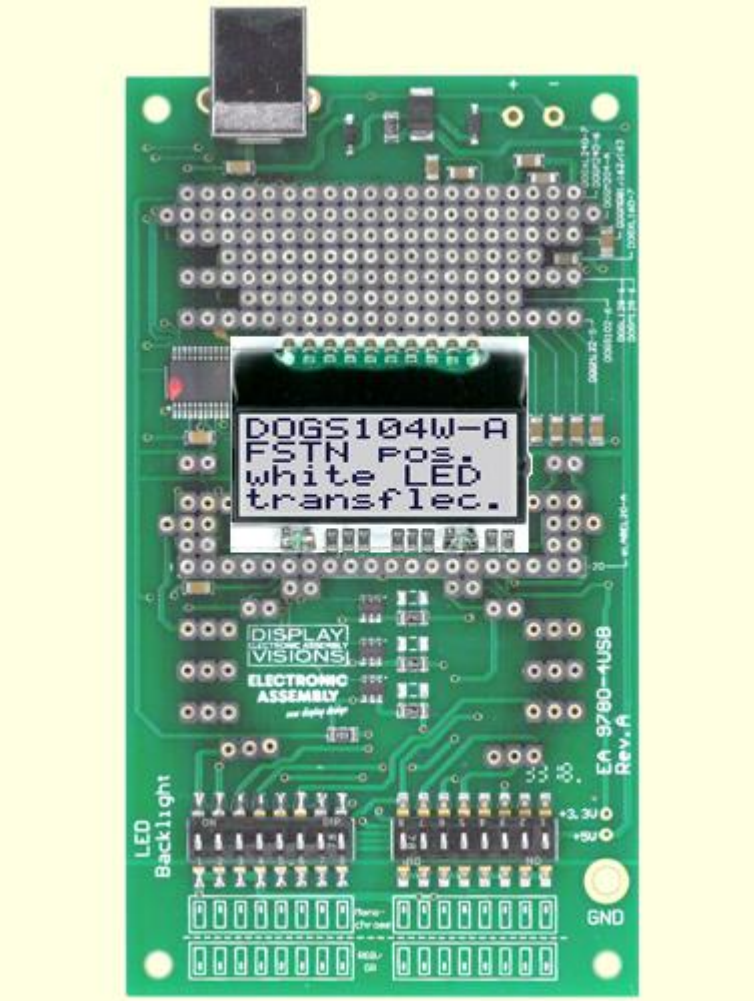
EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.8 9780-4 DOGM204



EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.9 9780-4 DOGS104



EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.10 9780-4 DOGS164

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.11 9780-4 DOGS102

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.12 9780-4 DOGM132

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.13 9780-4 DOGM128

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.14 9780-4 DOGL128

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 - DOGM240 28
DOGXL160 29 - DOGXL240 30

3.15 9780-4 DOGM240

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240
DOGXL160 29 - DOGXL240 30

3.16 9780-4 DOGXL160

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 - DOGXL240 30

3.17 9780-4 DOGXL240

EMPTY 16 - eLABEL20 17
DOGM081 18 - DOGM162 19 - DOGM163 20
DOGM204 21 - DOGS104 22 - DOGS164 23 - DOGS102 24
DOGM132 25 - DOGM128 26 - DOGL128 27 - DOGM240 28
DOGXL160 29 - DOGXL240

4 EA 9780-3USB

4.1 Features

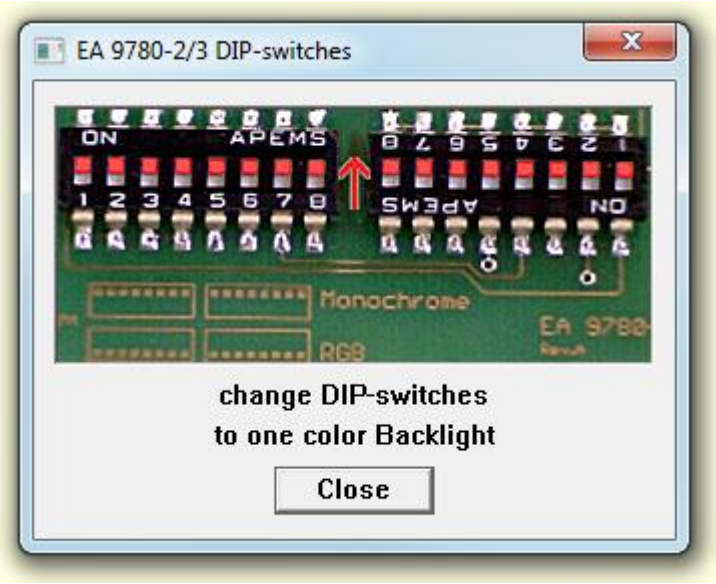
With that test board all displays from EA DOG series and EA eLABEL20 will put into operation in a flash. There is no hardware or software knowlegde necessary. The included USB cable performs easyly the connection to the PC. Text and pictures (BMP) can be shown direct on the connected display.

* 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)

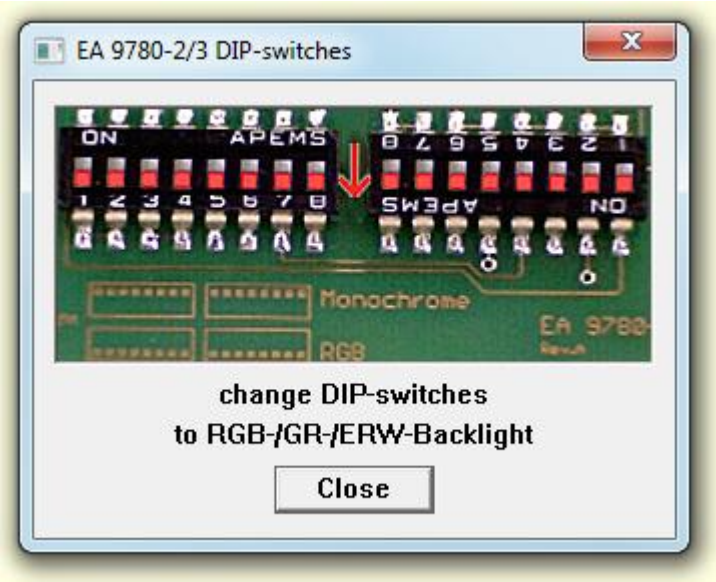
4.2 LED-backlight

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

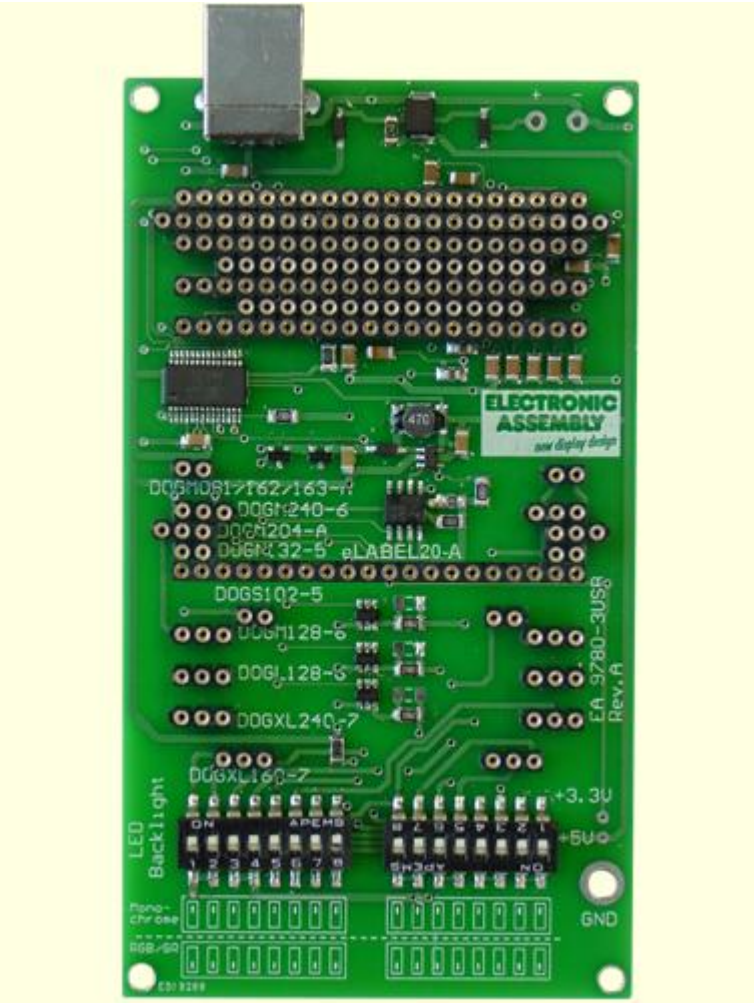
To operate the single-color LED versions white, yellow/green, amber, blue, red or green
the DIP-switches must be changed to top position:



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



4.3 9780-3 EMPTY



EMPTY - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.4 9780-3 eLABEL20

EMPTY 33 - eLABEL20
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.5 9780-3 DOGM081

EMPTY 33 - eLABEL20 34
DOGM081 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.6 9780-3 DOGM162

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.7 9780-3 DOGM163

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.8 9780-3 DOGM204

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.9 9780-3 DOGS104

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.10 9780-3 DOGS102

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.11 9780-3 DOGM132

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.12 9780-3 DOGM128

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.13 9780-3 DOGL128

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 - DOGM240 44 - DOGXL160 45 - DOGXL240 46

4.14 9780-3 DOGM240

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 - DOGXL160 45 - DOGXL240 46

4.15 9780-3 DOGXL160

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 - DOGXL240 46

4.16 9780-3 DOGXL240

EMPTY 33 - eLABEL20 34
DOGM081 35 - DOGM162 36 - DOGM163 37 - DOGM204 38
DOGS104 39 - DOGS102 40 - DOGM132 41 - DOGM128 42
DOGL128 43 - DOGM240 44 - DOGXL160 45 - DOGXL240

5 EA 9780-2USB

5.1 Features

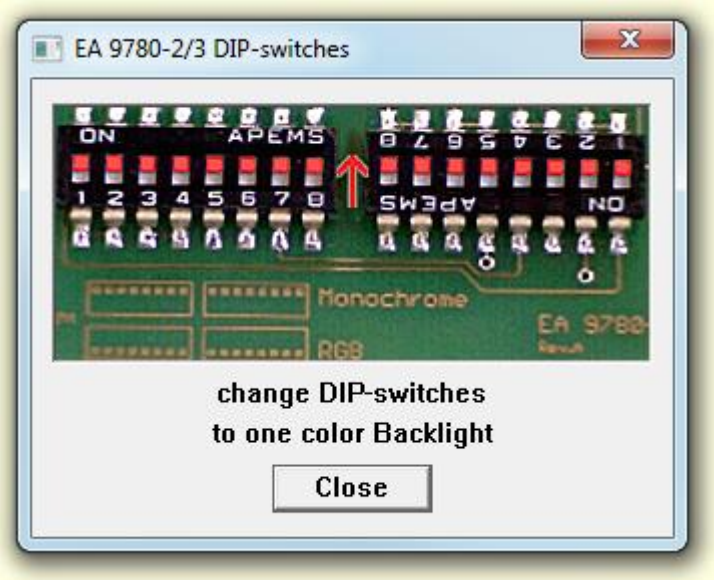
With that test board all displays from EA DOG series (until 2012) will put into operation in a flash. There is no hardware or software knowlegde necessary.
The included USB cable performs easyly the connection to the PC. Text and pictures (BMP) can be shown direct on the connected display.

* Connection to USB: simple Usage
* Good for all EA DOG Modules
* 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
* incl. blue illuminated USB cable (1.5m)

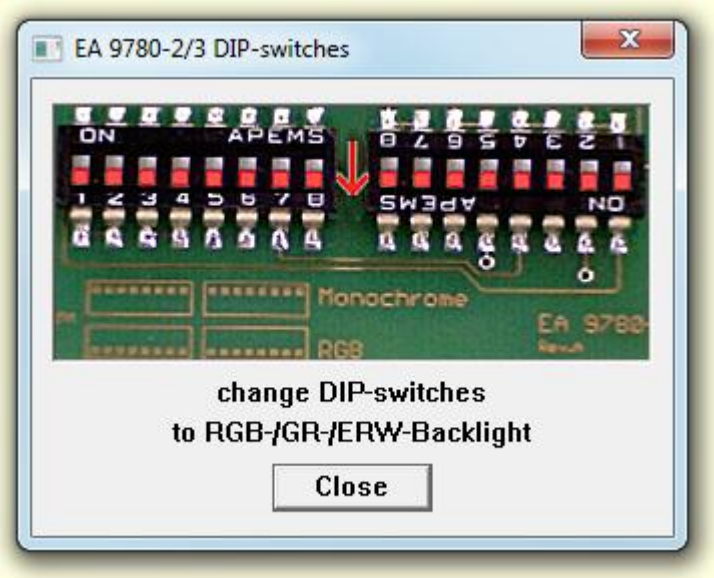
5.2 LED-backlight

The board EA 9780-2USB is ready to use for all LED backlights.

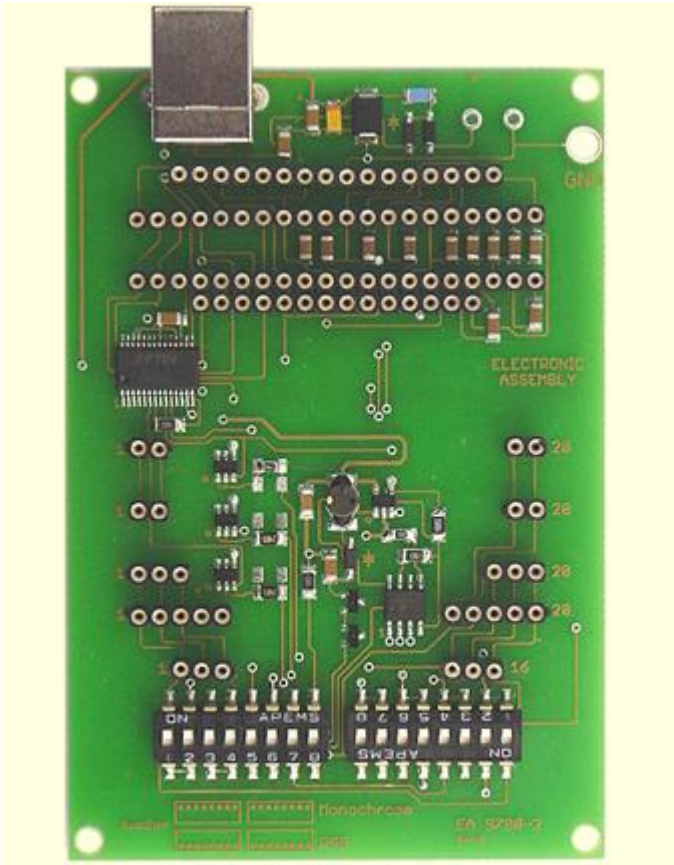
To operate the single-color LED versions white, yellow/green, amber, blue, red or green
the DIP-switches must be changed to top position:



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



5.3 9780-2 EMPTY



EMPTY - DOGM081 [50] - DOGM162 [51] - DOGM163 [52] - DOGS104 [53]
DOGS102 [54] - DOGM132 [55] - DOGM128 [56] - DOGL128 [57] - DOGXL160 [58]

5.4 9780-2 DOGM081

EMPTY 49 - DOGM081 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160 58

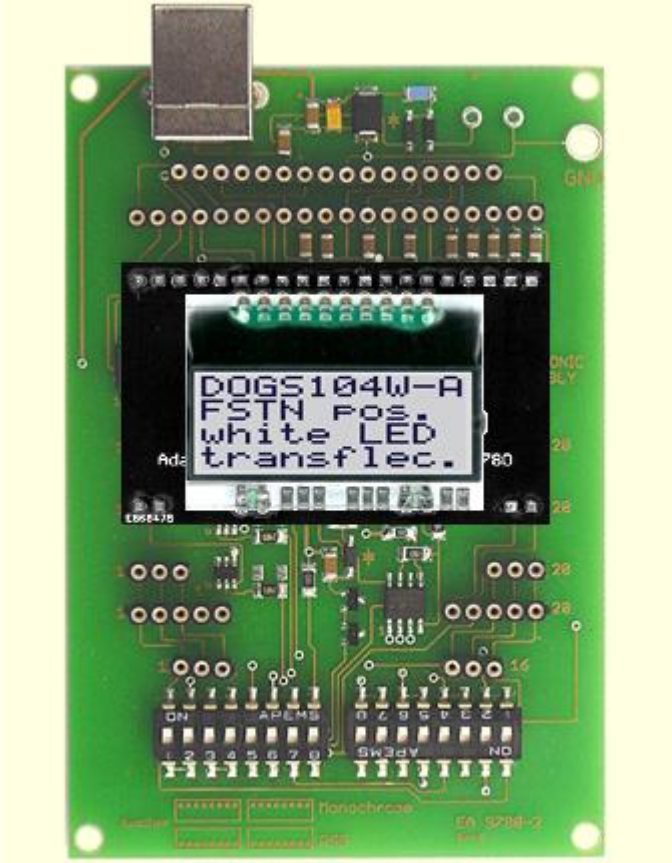
5.5 9780-2 DOGM162

EMPTY 49 - DOGM081 50 - DOGM162 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160 58

5.6 9780-2 DOGM163

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160 58

5.7 9780-2 DOGS104



EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160 58

5.8 9780-2 DOGS102

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160 58

5.9 9780-2 DOGM132

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 - DOGM128 56 - DOGL128 57 - DOGXL160 58

5.10 9780-2 DOGM128

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 - DOGL128 57 - DOGXL160 58

5.11 9780-2 DOGL128

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 - DOGXL160 58

5.12 9780-2 DOGXL160

EMPTY 49 - DOGM081 50 - DOGM162 51 - DOGM163 52 - DOGS104 53
DOGS102 54 - DOGM132 55 - DOGM128 56 - DOGL128 57 - DOGXL160

6 Individual Pictures/Text

How to bring Text/Pictures to the Display

By Simulator Software: When you have double clicked to the startdog.exe, immediately a demo page appears on the monitor, when a EA 9780-4USB 14 the demo page appears as soon as the right organization is chosen under the Module 7 pull down button;
Additionally you can select under the File 5 pull down button the function Demo for other pictures/text;

By Keyboard: Easiest way to get individual text to the displays is to click under File 5 to Power on Reset or Clear Display. A full dot cursor appears blinking on the top left position. Now you can type with the keyboard the text you want to show in the display. When the line is full it writes to the next line, when it is at the end of the last line it shifts all content 1 line higher and writes again to the last line.

Individual Pictures/Text: If you want that the demo starts with your own text you can change the text files in the folder StartDog (DOGMxxx.txt) and save it. Immediately the program will take the new file and show your text.
If you want to show your own graphic file you should copy it into the bitmap files in the folder StartDog (DOGxxx.bmp) and save it. Immediately the program will take the new file and will show your graphic.
Also you can take a bmp- or text file with the mouse and drop it on the display area, it will include it.

Notes: The bmp-file must be a black and white one without gray scales and must not be bigger than the display resolution. Otherwise you will get an error note on the screen. Only 1pc. EA 9780-4USB 14 can be connected to a PC;

7 Troubleshooting

No Demo appears on the display plugged to the EA 9780-xUSB

Please click in the menu Help 12 the button About;
The display may be damaged;

"Board: not connected" please check:

Is the USB-cable plugged in well on both sides;
Is the USB driver installed on the PC;
The test board EA 9780-4USB 14 may be damaged;

Backlight is not working:

The few LED pads on the one side should have contact to the LCD pins (2 times 2 or 3 pins);

Backlight is working but nothing is seen on the display:

The display pins on the other side are not correct plugged in;
Is the right display type selected in the Module 7 Menu;
Please select "Set extern Contrast" in the Menu Glass 9 and slide with the mouse the sliding resistor to adjust contrast;
The display may be damaged;