Important information regarding ST evaluation boards

The evaluation boards mentioned in this document require special attention in terms of board packages, flash loader support or hardware troubleshooting.

Flash loader support

Currently, TouchGFX does not offer full IAR and Keil flash loaders for the *external* flash of the STM32F7 based boards (STM32756G-EVAL/STM32756G-DISCO) and STM32F469 based boards (STM32469I-EVAL/STM32469I-DISCO). Refer to the table below for an overview of flash loader support for supported compilers/IDE's. As a general rule, all ST boards can be programmed using STs "ST-Link" utility using the binaries produced by TouchGFX projects, but TouchGFX does its best to offer flash loader directly within IAR and Keil IDEs.

To program the external flash of either four boards with binaries produced by either Keil, IAR or GCC, use the appropriate .hex file (i.e. `\target\ST\STM32756G-EVAL\IAR\Debug\Exe\application.hex`) from within ST-Link. The procedure for programming these boards (using ST-Link) is outlined in the official documentation under the section *"Build and Execute"*: http://touchgfx.com/documentation/html/page_build_and_execute.html.

Flashloader support	*IAR*	*Keil*	*gcc*
STM32756G-EVAL	Not supported	Supported	Supported
STM32756G-DISCO	Supported	Supported	Supported
STM32469I-EVAL	Not supported	Not supported	Supported
STM32469I-DISCO	Not supported	Not supported	Supported

Not supported: Use ST-Link.
gcc: Use ST-Link.

Board packages

STM32F4x9I

The board package named STM324x9I-CUBE can be used for the STM32F4x9I-EVAL board and works for both 4.3" (MB1046) and 5.7" (MB1063) displays. It will auto detect which display is connected at runtime.

This board package was introduced in TouchGFX 4.3.0 and replaces the old STM32429I-EVAL1 and STM324x9I-EVAL-5.7 board packages. The new implementation is based on the ST CubeF4 drivers which makes it much easier to port to different hardware.

The board package named STM32F429I-DISCO is for the Discovery board.

STM32F7

Despite its label, the board package STM32756G-EVAL (`touchgfx/board`) is for boards with either a STM32F746- or STM32F756 MCU.

Hardware troubleshooting

STM32F4x9I-EVAL board

1. The STM324x9I-CUBE board package uses the SDRAM for frame buffers instead of the external SRAM, for a substantial performance gain. It is also much more common to use SDRAM in actual products due to pricing. However, the PCB design of the STM32F4x9I-EVAL board is such that there is signal sharing among the high address bits and the Camera and SAI. Consequently, you will see graphics glitches on the display if you use more than 8MBs of graphics data in your application. This problem can be eliminated by removing the camera module from its socket in the upper right corner of the board, and also de-soldering the R120 resistor, located here:

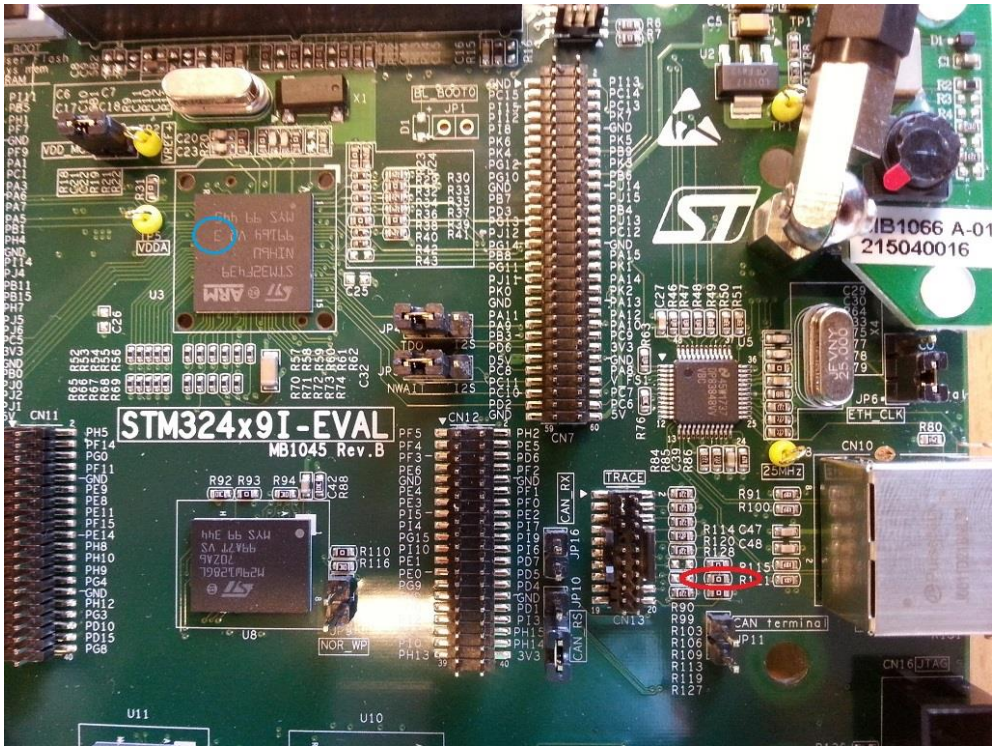

Figure 1 – Location of R120 resistor marked with red ellipse, MCU revision by blue circle.

Please note that *it is only necessary to remove the resistor if you use more than 8 megabytes of graphics data*.

2. The SDRAM can *only* be used on boards with an MCU revision "3" or later (marked by blue circle in the above picture), due to a problem in earlier MCU revisions. Some STM32F4x9I-EVAL boards were produced with an MCU revision of "Y", where the NOR flash and SDRAM cannot be used simultaneously (limitation **2.8.7** in rev. Y errata sheet). If your board has MCU revision "Y", please contact Draupner Graphics support at touchgfx-support@draupnergraphics.com.