Updating SLCD firmware from SD card

SLCD provides a way to update on-board firmware using the SD card slot. Below is the description of steps required to perform an update.

Step 1. Prepare the SD card

On power-on, the SLCD bootloader program checks if an SD card is present, and if so, looks in the root directory for a file with the name:
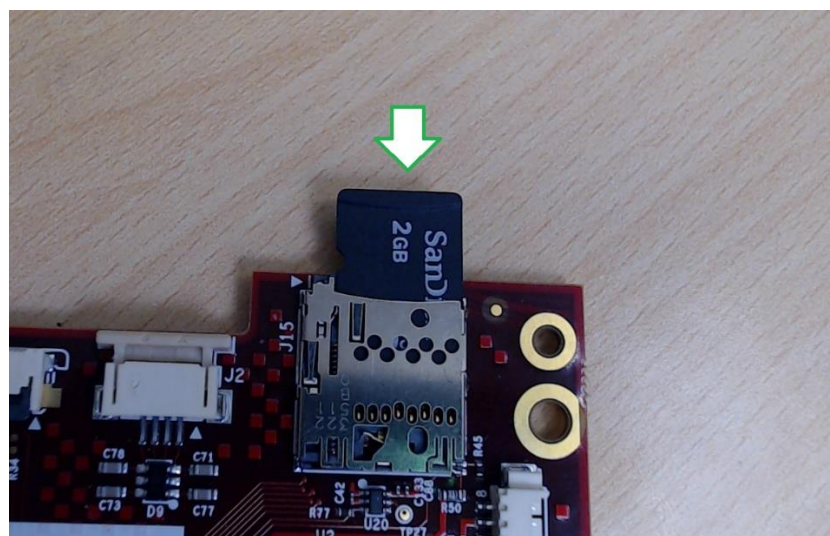
```
app????.bin
```

where '?' is any character. If it finds this file, it compares the version of the firmware on SD card with the current firmware. If they are different, it initiates a firmware update. Once the firmware has been upgraded it starts running. To force an update (ignore the version), place a non-null text file called "LOADFW.INI" in the root directory.

Example contents of the SD card:

Name	Date modified	Type	Size
dir1	9/7/2023 11:05 AM	File folder	
dir2	9/7/2023 11:06 AM	File folder	
app_091_alpha.bin	7/23/2024 3:12 PM	BIN File	2,279 KB
loadfw	5/24/2024 3:31 PM	Configuration sett…	1 KB

Step 2. Insert the SD card

Locate the SD card slot on SLDC and insert the card until click:

Step 3: Reset the SLCD

After the card is inserted you can either power cycle the SLCD or issue a console command:

```
*RESET
```

Upon reset the SLCD bootloader will take control and if files described in Step 1 are present will begin the update process.

Step 3: Update in progress

The update process may take up to minute, during which time the LED D2 flashes, and progress messages appear on COM0 (115200 baud). Below is the example output on COM0 during the update process:

```
*RESET

Card inserted.
Checking APP_09~1.BIN

Found image candidate: APP_09~1.BIN

:LOADFW.INI found - forcing firmware update

:=== Starting upgrade procedure ===

Erasing App Flash:

.......
Programming App Flash:
.....................................................................................
...................
Erasing Fonts Flash:
............................
Programming Fonts Flash:
...............................................................................................
...............................................................................................
...............................................................................................
...............................................................................................
.....................................................................Done!
```

Once the firmware has been upgraded it starts running.

Step 4: Verify the update

At this point the SLCD should boot up and produce the caret output. You can issue a command, such as „VERS" to verify firmware is functioning:

```
>
vers

0.9.0tft/hc/L SLCD43 ALPHA"VGA" "G1PLUS_ALPHA"
```