Technical Bulletin- Blank Lower Operational Screen (LED backlight screen)

Applies to the following SQA systems: ALL SQA (SQA-, SQA-V / SQA-V PRO and QwikCheck GOLD)

Issue date: June 3, 2019

Problem description: The lower, operational screen of the SQA is blank, but lit OR it displays black lines on a yellow background.

Procedure

STEP 1:

1. Re-install the SQA software.
2. If the software is successfully installed and the screen is still blank – go to **Step 2**
3. If the software was not installed successfully based on:
   a. **ACK error:** This is a FLASH MEMORY failure. An MBOB should be performed or the SQA must be sent back to MES LTD for repair as an RMA.
   b. **TIME OUT error:** This is a communication failure between the SQA and the PC. Verify the SQA is connected to the correct COM port on your PC and also that the COM port is defined properly.
   c. If the port is functioning: Press the SERVICE button while sequentially switching the device on and off twice. Try to install the software again. If the installation fails again –go to **Step 2**.

STEP 2:

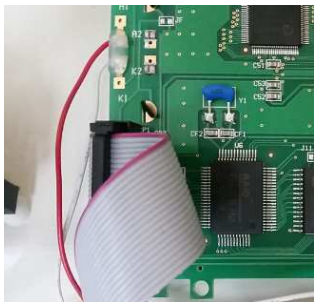
1. Download and run the "blank fix utility" according to the instructions on Appendix 3 of this document
2. In order to access the download area on MES website:
   Username: misuser
   Password: sqa260
3. If the problem persists go to **Step 3.**

STEP 3.1 – for SQA-Vision starting SN# 5229, SQA-V / SQA-V PRO starting SN# 2229 and QwikCheck GOLD starting SN# G0381**:**

1. Make sure the SQA is turned off and disconnected from any source of electricity.
2. Open the SQA.
3. Verify that the harness that connects the user screen and the main board is in the correct position and is properly connected (see figure 1).

   NOTE the alignment of the RED line on the flat cable
4. If the problem persists go to **Step 4**.

MB side



LCD screen side

Backlight PCB

Figure 1: Verify the flat cable is properly connected

STEP 3.2 – for all other SNs:

5. Make sure the SQA is turned off and disconnected from any source of electricity.
6. Open the SQA.
7. Verify that the harness that connects the user screen and the main board is in the correct position and is properly connected (see Figure 2).
8. If the problem persists go to **Step 4**.

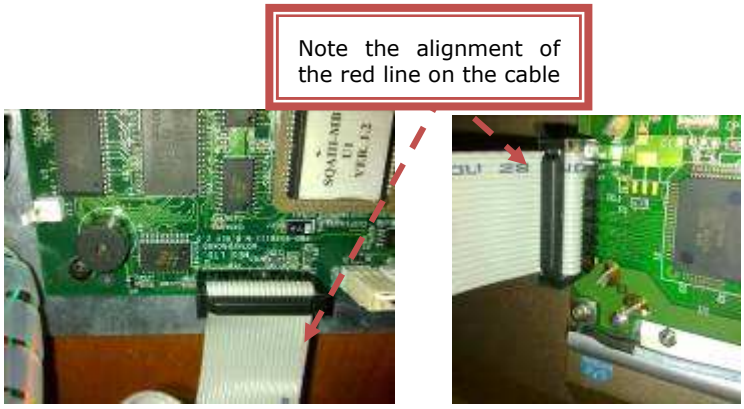


Figure **2**: Verify the flat cable is properly connected

STEP 4:

1. Verify the harness connecting the main board to the PC is properly connected (RS232 cable).
2. Tighten the harness connector at location J5 on the main board (see Figure).
3. If the problem persists go to **Step 5**.

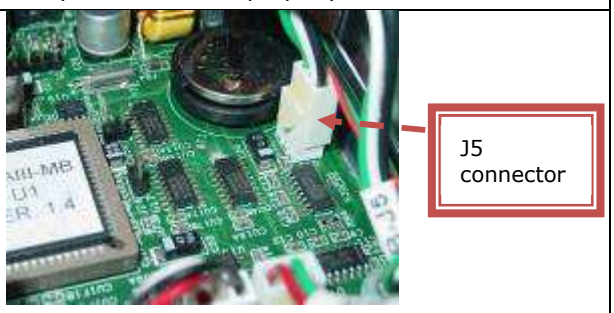


Figure 3: J5 connector on the main board

STEP 5:

1. Verify the Main board processor is positioned according to the instructions in Appendix 1 of this bulletin.
2. Replace the processor if the problem persists.
3. If the screen is still blank after replacing the processor- go to **Step 6**.

STEP 6:

1. Replace the LCD operational screen according to the instructions in Appendix 2 of this bulletin. The instructions can also be found on Page 19 in the SERVICE MANUAL.
2. If the problem persists with the new screen – perform an MBOB replacement OR send the SQA back to the manufacturer (MES) for a repair RMA.

Appendix 1: Instructions for RE-SEATING or REPLACING the SQA PROCESSOR

Stage 1: Re-seating the processor to the correct position:

1. Turn off the SQA and disconnect the power supply cable.
2. Remove the 4 screws on the rear panel using a Philips screw driver #2 (Fig.1) and open the SQA (Fig.2)

Fig. 1-2: Open the SQA

3. Slightly press the center of the processor with an index finger to re-seat it into the correct position. (Fig. 3).

Figure 3: Apply downward pressure to the processor

4. Close the SQA and replace the 4 Phillips screws on the rear Panel
5. Connect the power cable of the SQA.
6. Turn the SQA on and run the SELF TEST.
7. If the SQA passes, the repair process is complete.
8. If the SQA does not turn-on or fails the self- test, go to stage 2.

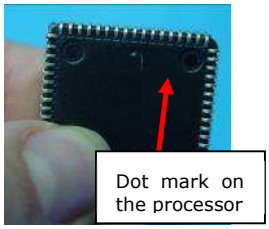
Stage 2: Replace the damaged processor:

1. Turn off the SQA and disconnect the power supply cable.
2. Release the 4 screws on the rear panel using a Philips screw driver #2 and open the SQA.

3. Remove the damaged processor using tweezers as shown (see Fig.5).

Fig. 5: Remove the damaged processor

4. Replace the old processor with a new processor according to the following directions (*):
   - Align the "dot" which is marked on the processor with the "Arrow" mark in the processor cavity (see Fig. 6-7).
5. Slightly press the center of the processor with an index finger to re-seat it into the correct position (Fig. 3 above).



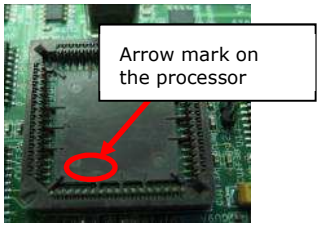


Fig. 6-7: Align the processor in the cavity correctly

5. Close the unit and screwing in the 4 Phillips screws on the rear Panel (as shown in Fig. 4 above).
6. Connect the power cable, turn on the SQA and verify that it passes the SELF-TEST.

(*) Note: The correct processor type MUST be used as follows:

Processor version 1.1- SQA-V non- I- button devices

Processor version 1.2- SQA-V with- I- button devices

Processor version 1.3- SQA-V PRO and QwikCheck GOLD
Processor version 1.5- SQA-Vision

Appendix 2: Instructions for replacing the LCD operational screen for SQA-Vision starting SN# 5229, SQA-V / SQA-V PRO starting SN# 2229 and QwikCheck GOLD starting SN# G0381

SQA-VISION Service Manual Version 109.13.3

Operation Monitor

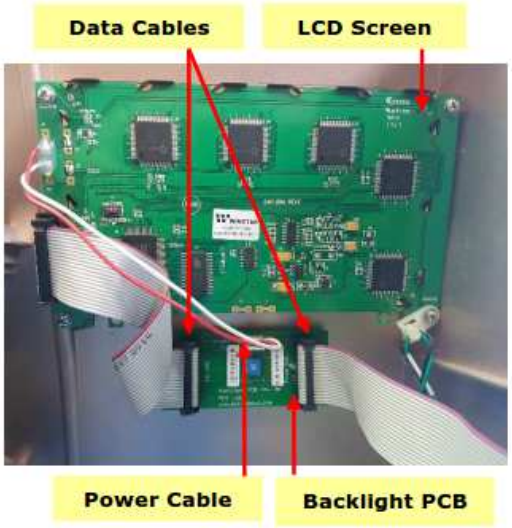
Operation Monitor - Lower LCD Screen (Part# LCD-0009)

ISSUE #1: The SQA-VISION is ON, both power indicators are functioning and the fan is working. But the lower LCD screen (Operation Monitor) is not illuminated although data is displayed on the screen.

- Open the SQA-VISION.
- Turn on the SQA-VISION and check that the LCD Screen is lit. If not, check the input and output cables of the Backlight PCB: verify that the cables are well connected and not loose.
- If the power supply is OK and the screen doesn't light up, replace the long flat cable connects the main board and the Backlight PCB. (Item #KHD-908-000858)
- If after you change the long flat cable, the screen doesn't light up, replace the Backlight PCB (Item#V-B-01410-00):
  - Turn the SQA-VISION off and disconnect the cables connecting the Backlight PCB to the main board and LCD screen.
  - Using a Phillips screwdriver, remove the two screws that secure the old Backlight PCB.
  - Replace the Backlight PCB with a new one and secure it with the two screws.
  - Re-connect the cables of the Backlight PCB.
- If the problem persists, contact MES Customer Support.

NOTE:
Turn off the power supply to the SQA-VISION and disconnect the power supply cable from the back of the device before opening the SQA-VISION.

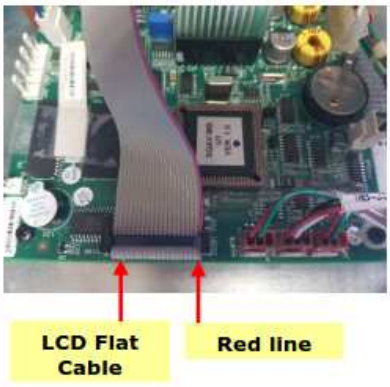
AFTER checking the LCD backlight, turn off the SQA-VISION and disconnect it from the main.

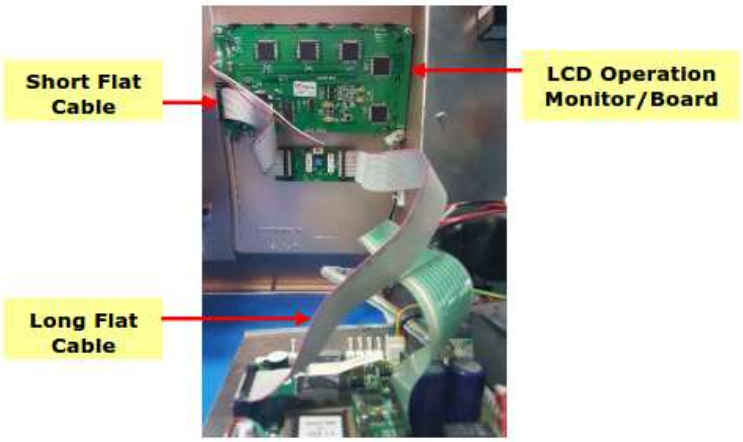


ISSUE #2- Blank Screen: There is no data displayed on the screen in spite of the fact that the SQA-VISION is ON, both power indicators are functioning and the fan is working.

- Re-install SQA-VISION software.
- If the software was not installed successfully- please refer to the technical bulletin in the appendix section for further instructions
- If the software was installed successfully and the problem remains- check the LCD flat cable:
  - MB side: Open the SQA-VISION and verify that the LCD flat cable is oriented with the red lined side toward J1 connector (as shown in the picture below).
  - Replace the long flat cable which connects the main board and the Backlight PCB. (Item #KHD-908-000858)
  - If replacing the long flat cable does not work – Replace the short flat cable which connects the LCD screen and the Backlight PCB. (Item#V-H-01411-00)
  - If replacing the short flat cable does not work - Replace backlight PCB. (Item#V-B-01410-00)

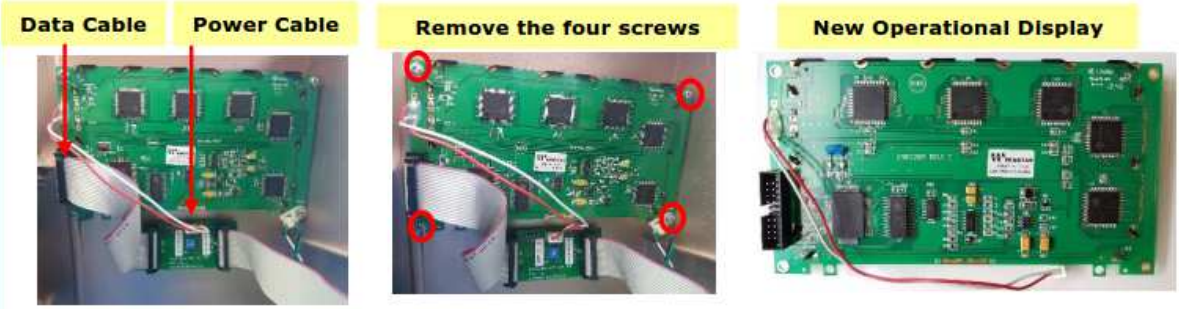
WARNING:
The two ends of the flat cable must be connected in the same way at each of the hubs or the LCD may be burned!





Note: for more detailed explanations regarding blank screen issues, please refer to the "blank screen technical bulletin" in the appendix section

- If replacing the backlight PCB does not work- replace the processor on the main board (see Appendix section for instructions).
- If replacing the processor does not work:
- Re-start the SQA-VISION and see if the LCD operational screen is still blank. If yes, replace the screen:
  - Disconnect the operational display data and power cable - note the four screws.
  - Replace the screen & reconnect the data and power cables.
- In case the problem persists after replacing the LCD screen- contact MES Customer Support.



Appendix 3: Instructions for replacing the LCD operational screen (for all other SQA SNs)

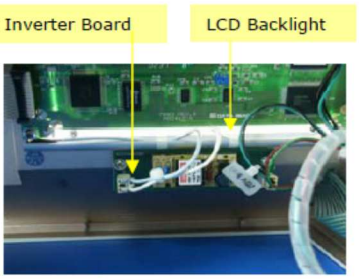
Operation Monitor

9. Operation Monitor - Lower LCD Screen (Part# LCD-0009)

ISSUE #1: The SQA-V is ON, both power indicators are functioning and the fan is working. But the lower LCD screen (Operation Monitor) is not illuminated although data is displayed on the screen.

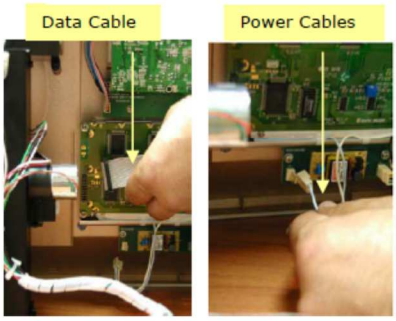
NOTE: Turn off the power supply to the SQA-V and disconnect the power supply cable from the back of the device before opening the SQA-V.

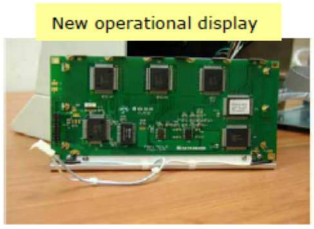
- Open the SQA-V.
- Check that the **LCD Backlight** is lit. If not, check the **input and output cables** of the inverter board.
- If the power supply is OK and the screen doesn't light up, replace the inverter board (Item#AS-9084111).
- Turn the SQA-V off and disconnect the cables connecting the inverter board to the main board and LCD screen.
- Using a Phillips screwdriver, remove the two screws that secure the old inverter board.
- Replace the inverter board with a new one and secure it with the two screws.
- Re-connect the cables of the inverter board.
- If the problem persists, contact Customer Support.

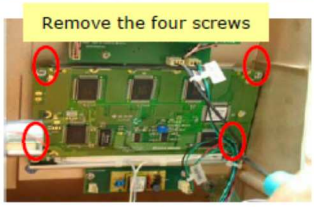


WARNING: DO NOT TOUCH the illuminated area of the LCD Backlight – HIGH VOLTAGE is supplied there.

AFTER checking the LCD backlight, turn off the SQA-V and disconnect it from the main.







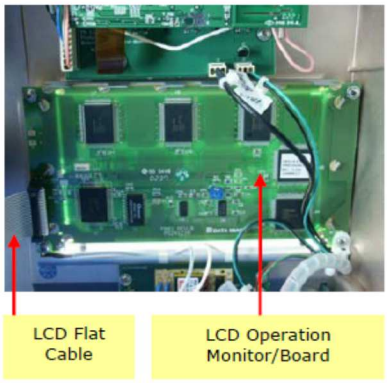
ISSUE #2: There is no data displayed on the screen in spite of the fact that the SQA-V is ON, both power indicators are functioning and the fan is working.

- Re-install SQA-V software.
- If this does not work, replace the processor on the main board (see Appendix section for instructions).

If replacing the processor does not work:

- Open the SQA-V and verify that the LCD cable, with the red lined side up is connected to the section designated with a 12 on the main board.
- Replace the flat cable if it appears damaged in any way.
- Re-start the SQA-V and see if the LCD operational screen is still blank. If yes, replace the screen:
- Disconnect the operational display data and power cable - note the four screws.
- Replace the screen & reconnect the data and power cables.

WARNING: The two ends of the flat cable must be connected in the same way at each of the hubs or the LCD may be burned!



Appendix 4: Blank Fix utility installation guide

Background

This utility was created to fix blank screen bug in SQA devices which happen after the device is Turned ON. Cleaning the archive was found as work around solution for this blank screen issue and this utility do so.

Working Process

- Connect the SQA-V to PC using RS-232 cable.
- Click on the following link to download the Blank Screen Utility – Blank Fix Utility 153.0.0 11.02.2018.zip
- Unzip the downloaded file and Double click on BlankFix153.0.0.EXE file.
- Allow the short installation to begin by click the next button.
- MES download program window will pop up. Make sure that your communication port is correct.
- Check the communication port by running Window's Device Manager.
  - Disconnect and reconnect the RS-232 cable and see which port is added (image 1).
- Turn the SQA unit OFF (at the rear panel).
- Turn the SQA unit ON while SERVICE key is simultaneously pressed.
- Enter "fertility" in password textbox and click START (PC).
- Cleaning process will begin and when it completed successfully close the window.
- Turn off the SQA and then turn it ON. The SQA should work properly.

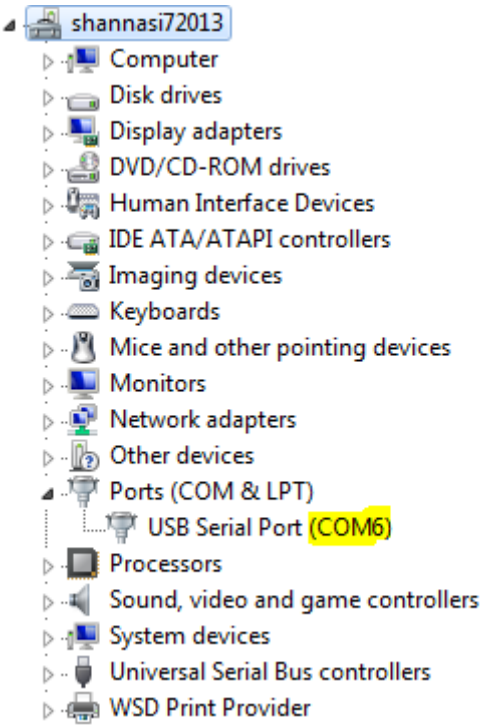


Image 1