

TAPC CONSOLES

TROUBLESHOOTING & INFORMATIONAL GUIDE

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GETTING TO THE UPPER CONTROL BOARD

1. REMOVE SCREWS ON BACK PANEL



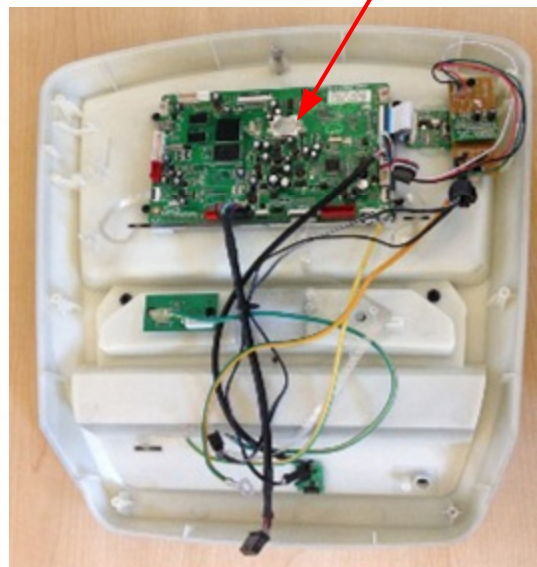
LIVESTRONG LS15.0E



TAPC UPPER
CONTROL BOARD

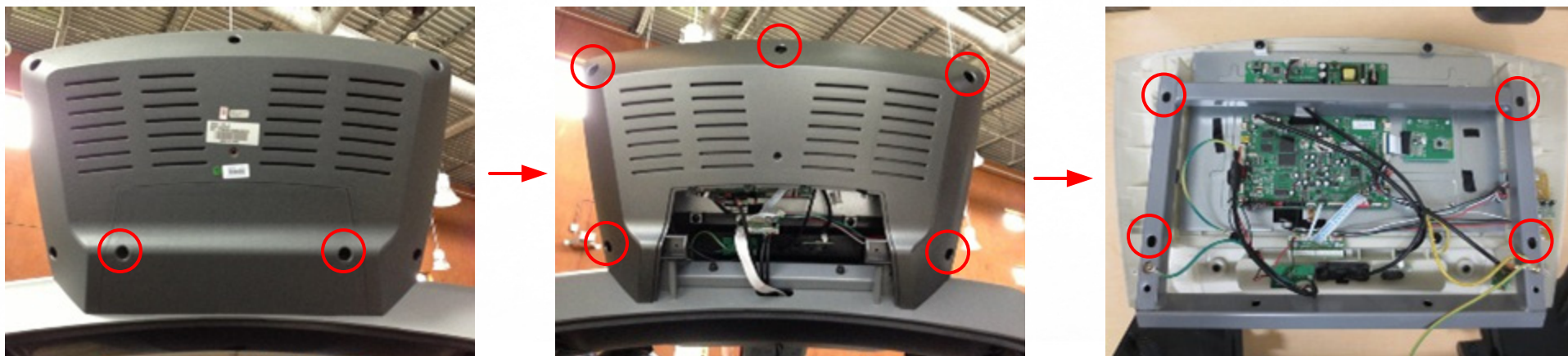


VISION TOUCH / ELEGANT BEP



REMOVE SCREWS ON BACK PANEL (CONT.)

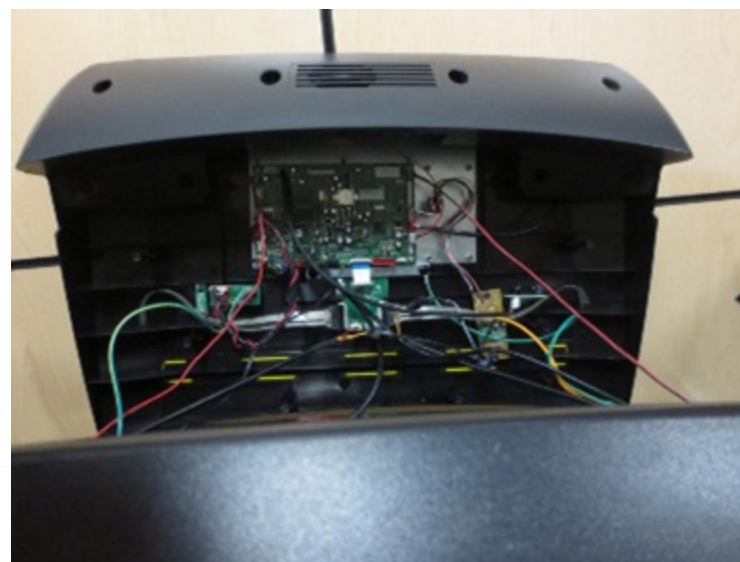
VISION TOUCH / ELEGANT TREADMILL CONSOLE



2. REMOVE BRACKET & GROUND WIRES TO ACCESS UCB

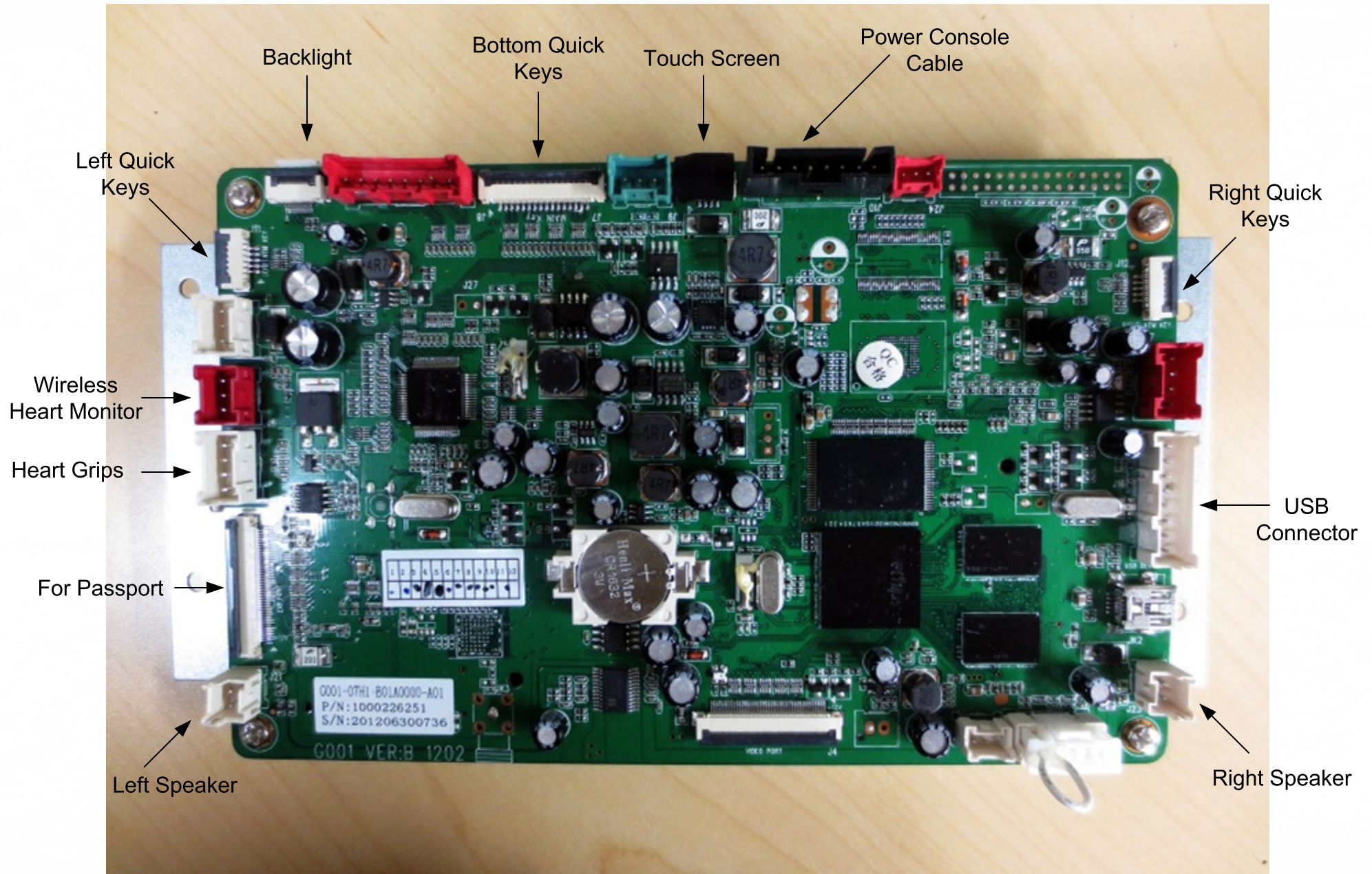


LIVESTRONG LS15.0T
TREADMILL CONSOLE



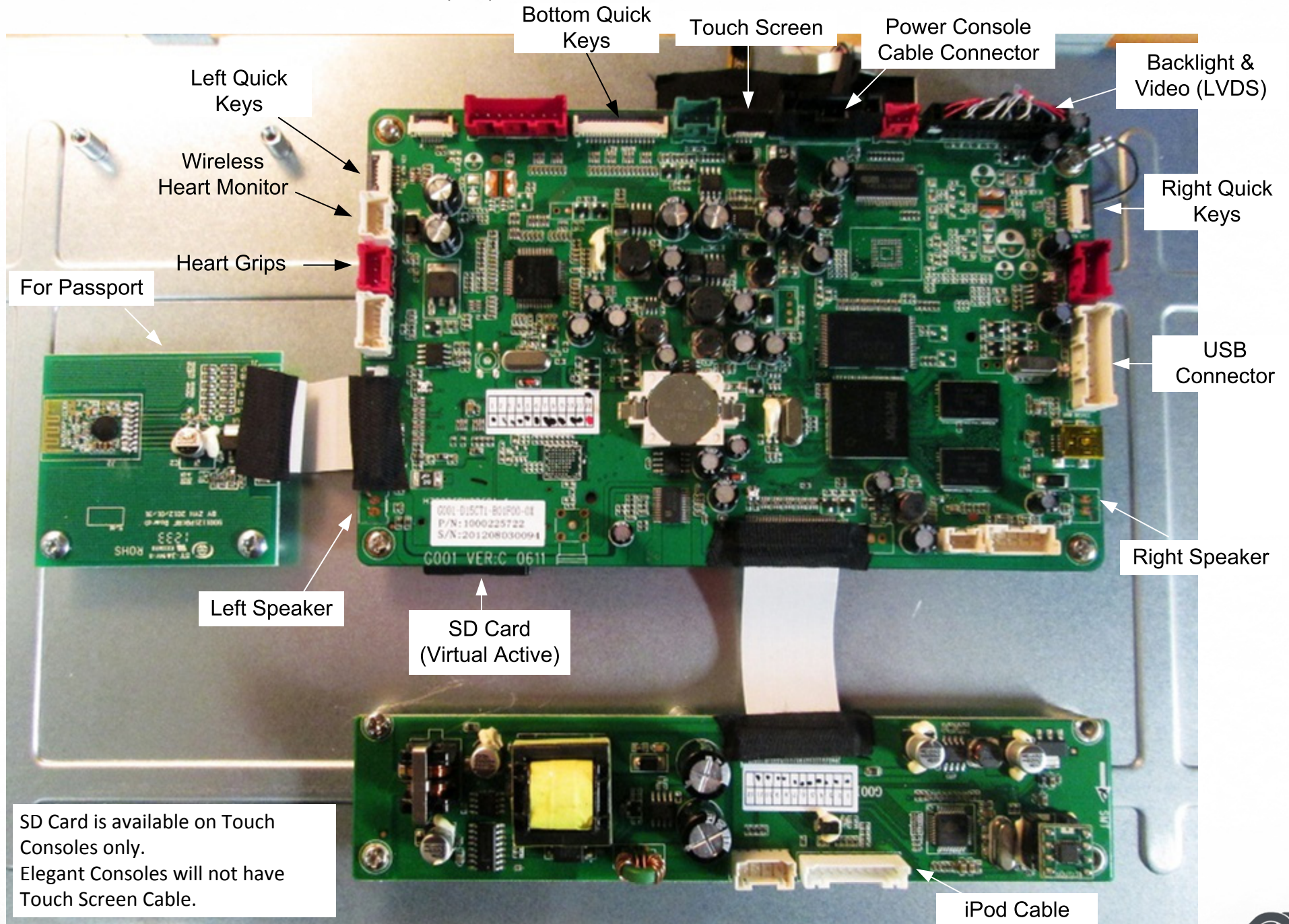
UNDERSTANDING THE UPPER CONTROL BOARD

MODELS: LS15.0E, LS15.0T, VISION ELEGANT (BEP)



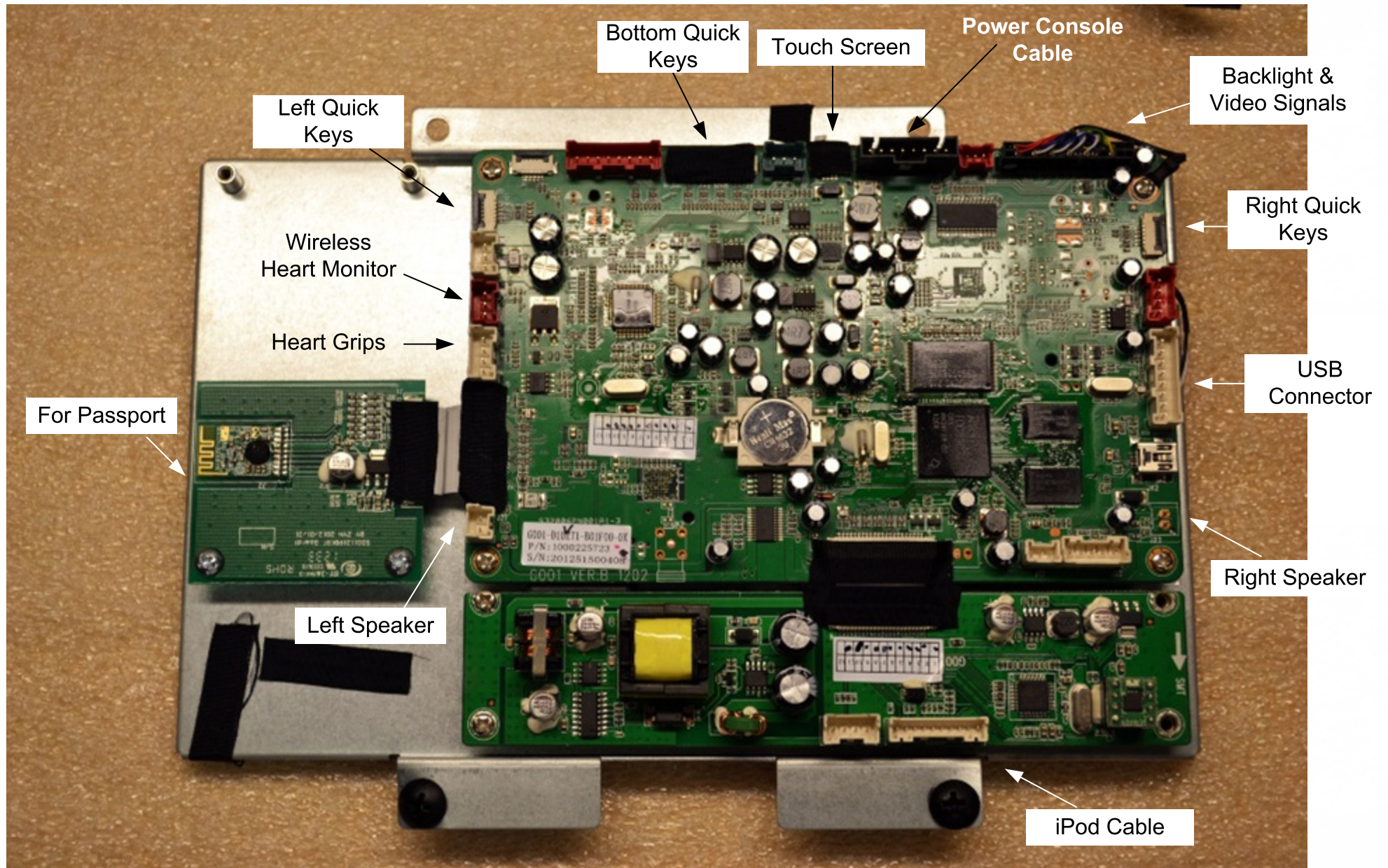
UNDERSTANDING THE UPPER CONTROL BOARD (Cont.)

MODELS: VISION TOUCH / ELEGANT (TM)



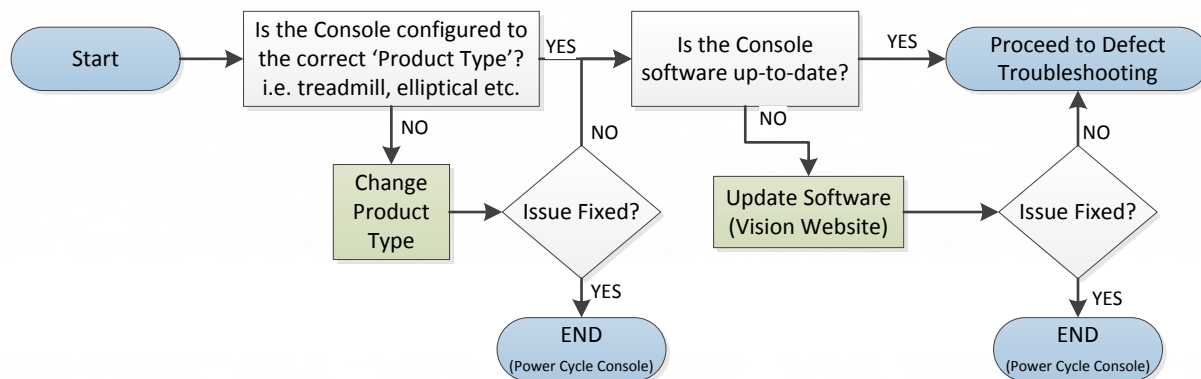
UNDERSTANDING THE UPPER CONTROL BOARD (Cont.)

MODELS: VISION TOUCH (BEP)



COMMON FAILURE MODES & THEIR DIAGNOSIS

The pre-troubleshooting guide normally resolves majority of the problems.



PROBLEM DESCRIPTION: No Display / No Backlight

SOLUTION: Follow instructions on page 12 to diagnose the problem

PROBLEM DESCRIPTION: No Power

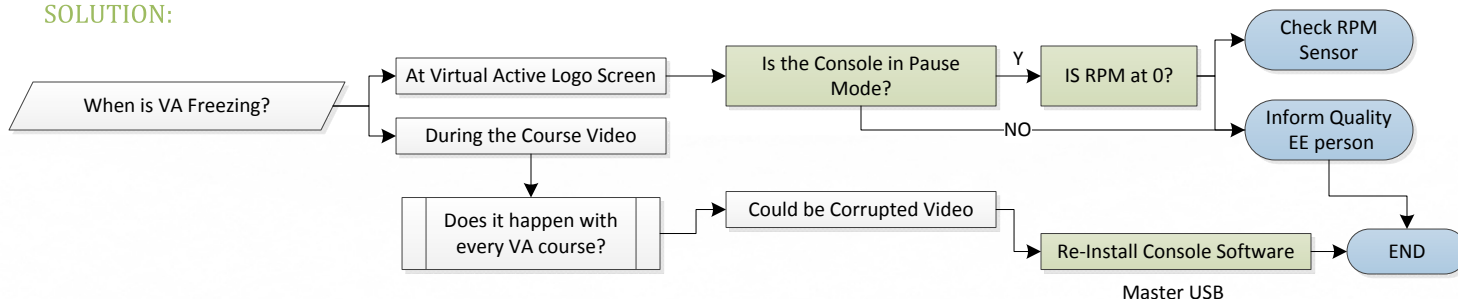
SOLUTION: Follow instructions on page 12 to diagnose the problem

PROBLEM DESCRIPTION: No Touch Screen Function

SOLUTION: Check for damage on touch screen. A crack on the screen will make the touch function unworkable.

PROBLEM DESCRIPTION: VA Freezing / Troubleshooting

SOLUTION:



PROBLEM DESCRIPTION: Display shows white screen.

SOLUTION: This is most commonly due to the LVDS cable not connected. Follow instructions on page 13.

PROBLEM DESCRIPTION: No VA on Screen.

SOLUTION: VA is on an SD card for Touch Consoles. Remove and reinsert SD card followed by a power cycle. If troubleshooting a non-touch console, use 'Master USB' to reinstall the VA.

PROBLEM DESCRIPTION: Keys not functioning

SOLUTION: Check the keypad ribbon cable at the Upper Control Board is loose. If not loose, replace the keypad membrane is possible else salvage parts and scrap console.

PROBLEM DESCRIPTION: Console shows WinCE on power up / TM001.exe Error

SOLUTION: Follow instructions on page 17 to solve the problem. For TM001.exe error with the GUI running, simply insert USB with GUI / IO software. Follow instructions on screen.

TROUBLESHOOTING THE UPPER CONTROL BOARD

TOOLS, EQUIPMENT & SOFTWARE REQUIREMENTS



USB CABLE
MALE A TO MINI TYPE



COMPUTER
PC – WIN XP OR LATER



DIGITAL MULTIMETER HANDHELD



PAIR OF TWEEZERS
WITH POINTED TIPS
(METALLIC)



ESD BAND

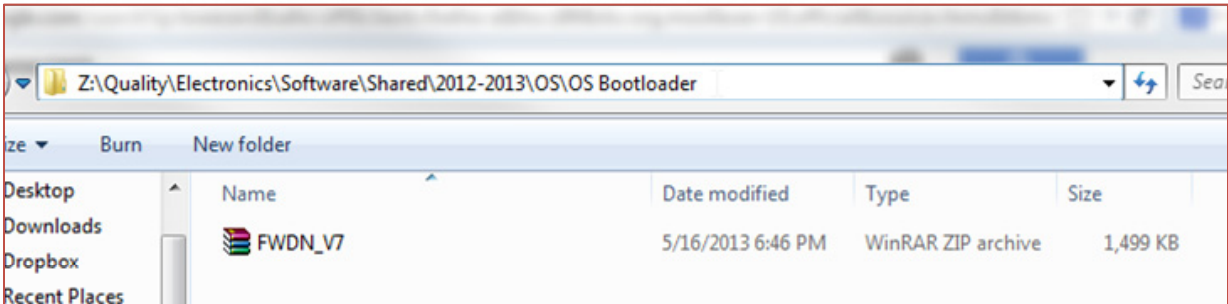


USB Disk (128 MB OR HIGHER)

Va	1/24/2013 12:20 PM	File folder	
BL_130V	1/7/2013 10:52 AM	Text Document	3 KB
info	1/7/2013 10:52 AM	File	1 KB
IO1	1/17/2013 3:02 PM	Text Document	55 KB
PATCH	1/7/2013 10:52 AM	Text Document	1 KB
PremierGUIDeploy	1/7/2013 10:52 AM	WinRAR archive	39,342 KB
PremierGUIDeploy	1/7/2013 10:52 AM	Setup Information	26 KB
update	1/7/2013 10:52 AM	CONFIG File	3 KB

THE USB SHOULD BE
LOADED WITH THE
LATEST INSTALL
SOFTWARE OF THE
CONSOLE YOU ARE
EVALUATING.

SAMPLE OF WHAT THE
FILE STRUCTURE
SHOULD LOOK LIKE.



IF INSTALLING THE OS, THE PROGRAM IN THE ZIP FILE SHOWN ABOVE SHOULD BE EXTRACTED ON
TO YOUR COMPUTER. INSTRUCTIONS ARE IN THE OS INSTALL SECTION ON PAGE 15.

LOCATION OF THE FILE IS OUTLINED IN THE IMAGE ABOVE.

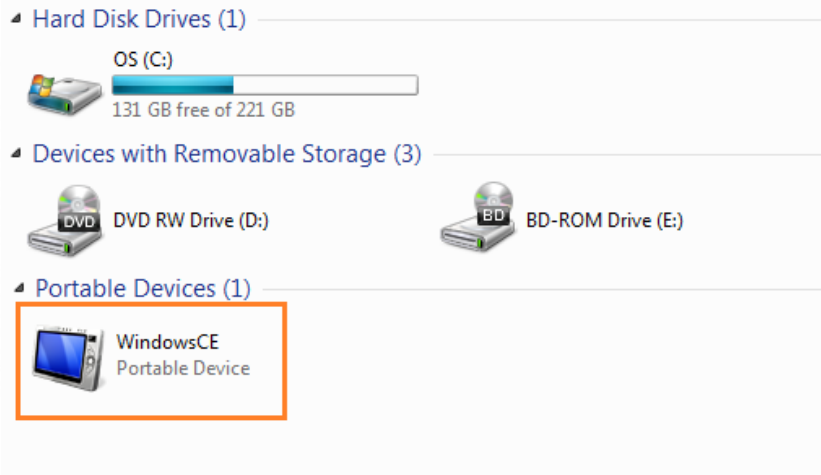
NAND FLASH & GUI FILES EVALUATION

In this section we will discuss how to identify a WinCE or TM001.exe problem. This procedure is also used to verify whether the NAND Flash is operational and GUI files functional.

Step 1: Connect the USB Mini to the Upper Control Board and the other end into an open port of the computer.

Step 2: Apply power to the Upper Control Board via the Console Cable. (Attach any additional peripherals as needed)

Step 3: Open My Computer > Check to see if the Portable Device icon appears as seen below.



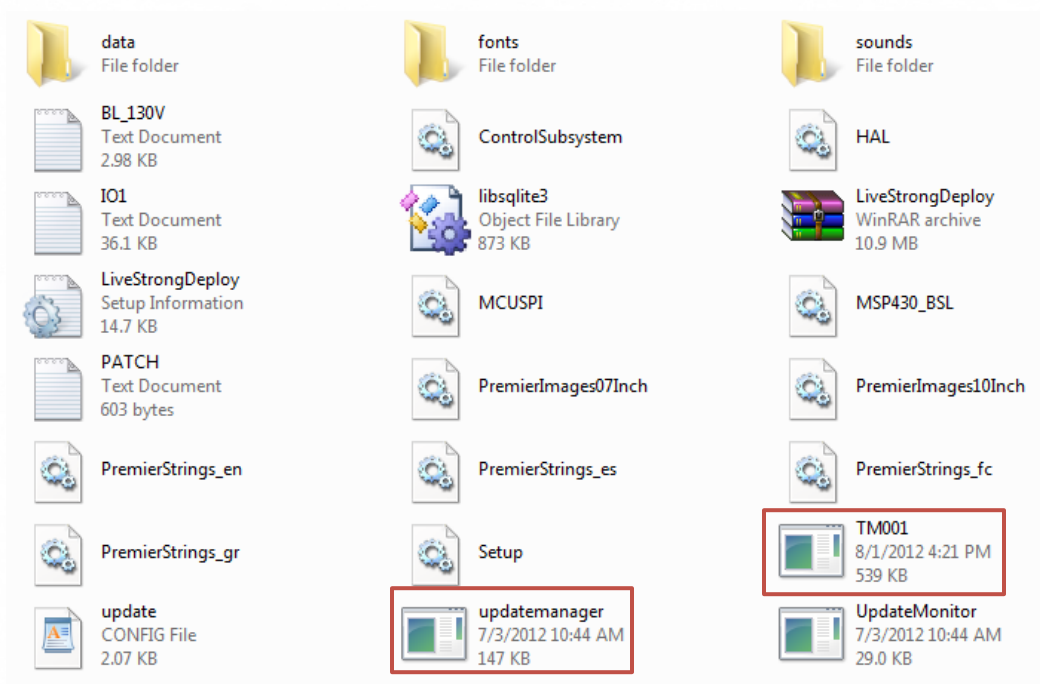
If the icon does not appear, or if any errors occur, continue to the No Display / No Power Section and begin troubleshooting.

If icon appears, then double-click the icon and check to see if NAND Flash has the TM001.exe file present.

If present, and you continue to get the WinCE error, the file may be corrupted. *Proceed to page 17 to reinstall the GUI and IO.*

If not present, continue to above mentioned section and install the files.

Sample of what the NAND Flash folder should look like. Notice the two highlighted files and their file sizes. If your files are of lesser value – that is a fair indication of corrupted files.



UPPER CONTROL BOARD CONTINUITY TEST

In this section we will discuss how to check for continuity of the UCB. This will help us understand if the UCB is shorting. Shorts on the UCB will cause no power to be delivered.

Items Needed: Digital Multimeter, TAPC UCB and appropriate screwdrivers.

Step 1: Identify the TAPC board you have. Refer to the section -“Understanding the Upper Control Board”.

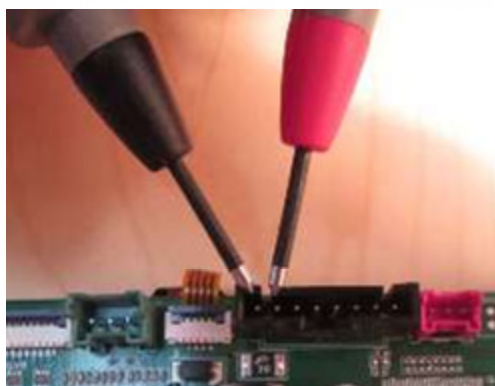
Step 2: Take the digital multimeter and switch to the Resistance setting as shown. Then press the **SHIFT** button. If this was done correctly, the meter should beep when the two probes are connected.



Note: Ensure that the probes are connected to the proper ports



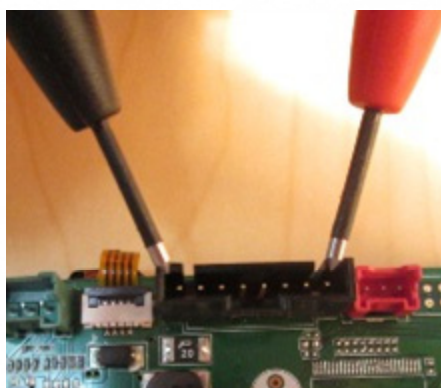
MULTIMETER WILL BEEP



Step 3: With no power to the UCB, check the continuity at the input power connector as shown below.

Step 4: If any of the above checks does not respond as stated, the UCB has a short. If the checks function correctly, the UCB has continuity.

MULTIMETER SHOULD NOT BEEP



Step 5: If a short exists, proceed to remove all connections from UCB. Then repeat step 3. If the short no longer occurs, one of the peripheral components is causing the short.

Step 6: Begin by connecting one connection at a time starting with the black LVDS connector, and repeating step 3. If the short is occurring due to the LVDS cable, proceed to the Section – Secure the LVDS Cable’. If the short occurs with one of the other add-on devices, proceed to replace said device.

NO DISPLAY / NO POWER EVALUATION

In this section we will discuss how to check for some common root causes for suspected no power and no display function.

NO DISPLAY CHECK: The display consists of two primary components. The Video Driver and the Backlight. To check if the backlight is functional – check around the display for a white light. Usually it is near two wires (white & black). If the display has white light – it is most likely the LVDS cable. Go to section related to Securing the LVDS cable. If no light is noticeable – continue with the steps below to check for power.

Items Needed: Digital Multimeter, TAPC UCB and appropriate screwdrivers.

Step 1: Identify the TAPC board you have. Refer to the section -“Understanding the Upper Control Board”.

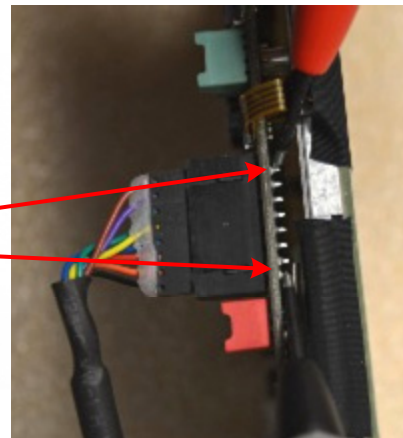
Step 2: Turn on the Digital Multimeter and set to DC Voltage.



Step 3: Take the multimeter probes and check the voltage at the input power connector with the cable connected and power turned on.

Measure the voltage between pin 1 and the last pin.

It should read 12volts +/- 10% respectively. If the value is not accurate, and the continuity test has been verified, recheck with another cable. If same, continue to Step 4.



Step 4: Take the multimeter probes and check the voltage at the U11 IC as shown.

The voltage between pin 8 and pin 5 of the IC should be 5Volts +/- 10%

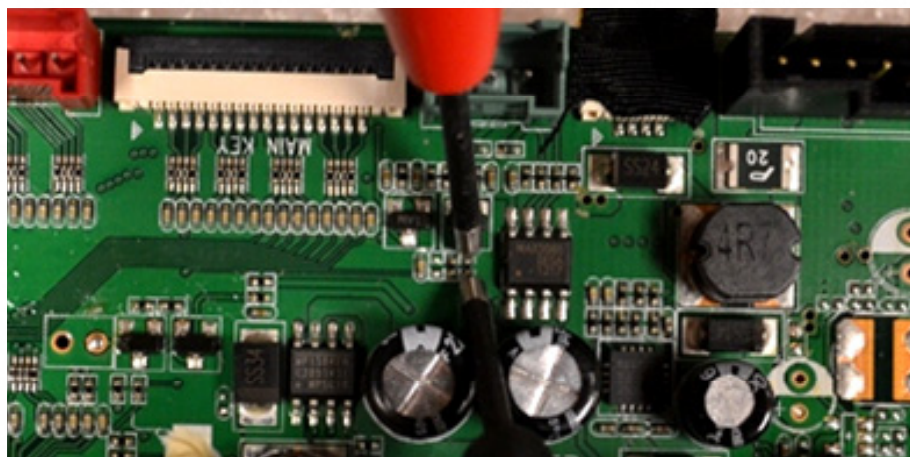
If not accurate, the OS has crashed, and needs to be reinstalled. Proceed to page 15 and follow instructions.



Step 5: Take the multimeter probes and check the voltage across the resistor as shown.

The voltage between them should be 3.3Volts +/- 10%

If not accurate, the OS / IO has crashed, and needs to be reinstalled. Proceed to page 15 and follow instructions.



Note: If you get a fluctuating reading, press into the pins with the probes until the reading is somewhat stable. If all voltages are accurate, but the problem persists, contact the QA Electrical Engineer for further assistance.

CORRECTING / FIXING THE UPPER CONTROL BOARD

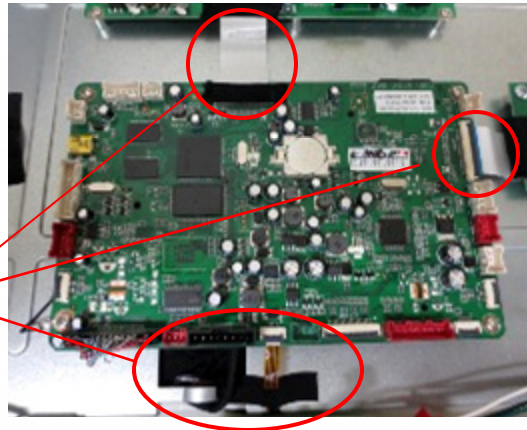
SECURE THE LVDS CABLE

In this section we will look at how to secure the LVDS cable. This cable provides the RGB signals to the display.

Note: This section is for only UCBs with the black LVDS cable on the UCB. The connector is not present, please skip this section.

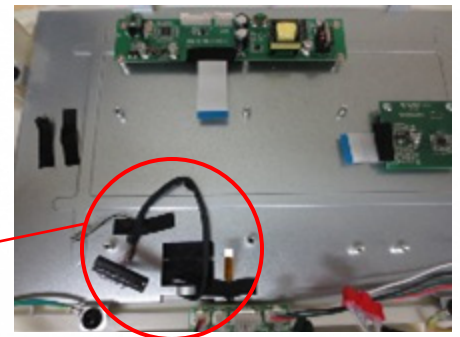
Step 1: Carefully remove the TAPC board connections ensuring that the ribbon cables and pins are not damaged in the process.

Remove tape first, then carefully remove the cables.

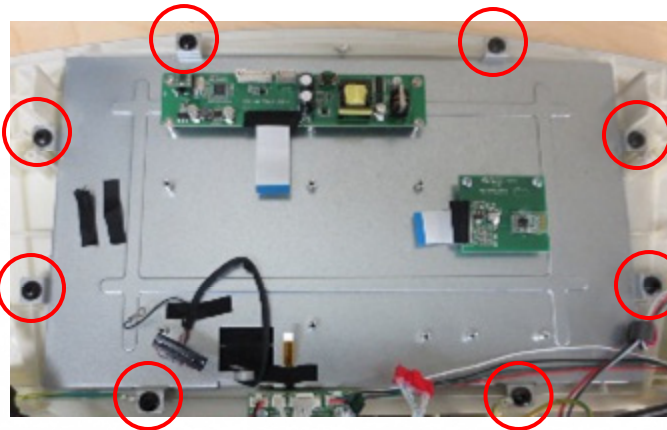


Step 2: Remove the four corner screws that hold the TAPC board in place. Carefully remove the board and place on non-static area.

The bare display should look similar to picture below.



Step 3: Remove the tape that secures the LVDS cable and the touch screen cable to the metal frame of the display. Ensure that the touch screen cable (if applicable) is not damaged or torn in the process.

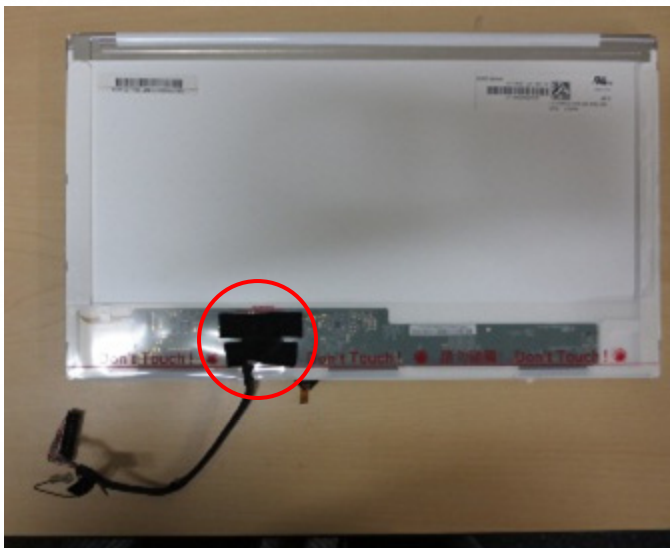


Step 4: Remove the 8 screws, and separate the display from the plastic housing.

Step 5: Remove the 4 screws, and separate the display from the metal back plate housing.



Step 6: Carefully remove the tape shown on the left, and check the connector underneath. If the connector is dislocated as seen below, reinsert the connector and secure it with the previously removed tape.



CORRECTING / FIXING THE UPPER CONTROL BOARD (Cont.)

Step 7: To quickly confirm if that fixed the problem, reconnect the previously removed TAPC board. Only the LVDS cable and console cable are required.



Step 8: The display should light up if the above step was the root cause for the failure. Check the front of the display to confirm if the screen works.



Step 9: Follow the steps in reverse to reassemble the console. When reassembling, ensure that the LVDS cable is relatively loose so the connector doesn't pull out again.

CORRECTING / FIXING THE UPPER CONTROL BOARD (Cont.)

INSTALLING THE OS

In this section we will discuss how to install the Operating System for the TAPC board. This

Items Needed: TAPC UCB, Laptop PC with OS Bootloader Software Installed, Tweezers, & USB Cable.

Step 1: Copy and extract the FWDN_V7 zip file on to the desktop. See Page 9 for File Location.

Step 2: Locate the vtcdrv folder and install the VTC Driver Installer.exe file. [FOR FIRST TIME USE ONLY]
Click START > Right Click on MY COMPUTER > MANAGE >>> Identify System Type Listed

Name	Date modified	Type	Size
Win2K	4/19/2013 10:57 AM	File folder	
x64	4/19/2013 10:57 AM	File folder	
x86	4/19/2013 10:57 AM	File folder	
ReadMe	6/30/2010 5:13 PM	Text Document	1 KB

For 64-bit PCs ←

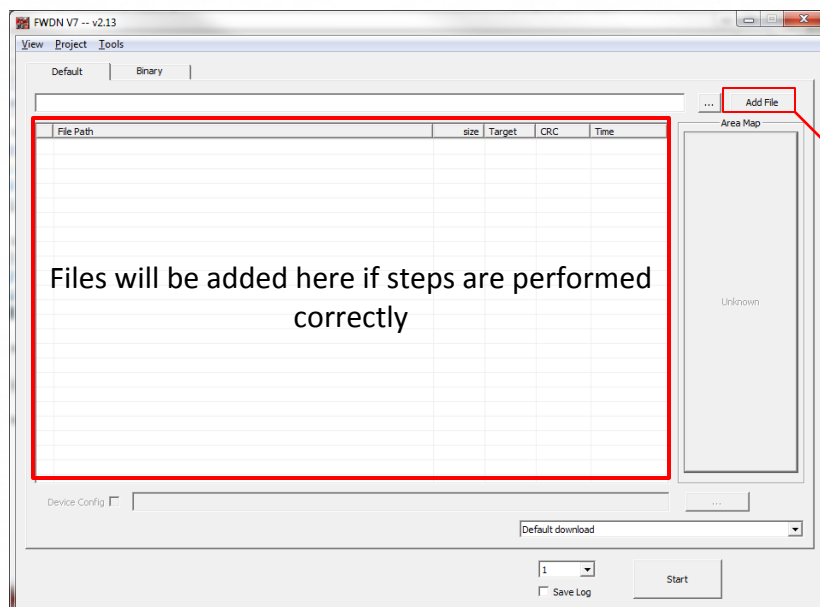
For 32-bit PCs ←

Step 3: Obtain the OS NAND files. Remember to get the OS files only for the display size you have. For example, OS for 7inch is for LS15.0E. The files should look similar to the image below.

OS Files are in Z:\Quality\Electronics\Software\Shared\2012-2013\OS

Name	Date modified	Type	Size
NAND Data.fai	4/29/2013 8:18 AM	FAI File	39,793 KB
nk.rom	4/29/2013 8:18 AM	ROM File	38,912 KB
tcBoot.rom	4/29/2013 8:18 AM	ROM File	2,016 KB

Step 4: Open Program FWDN_V7_v2.13 from the extracted folder. It should look similar to the screen below.

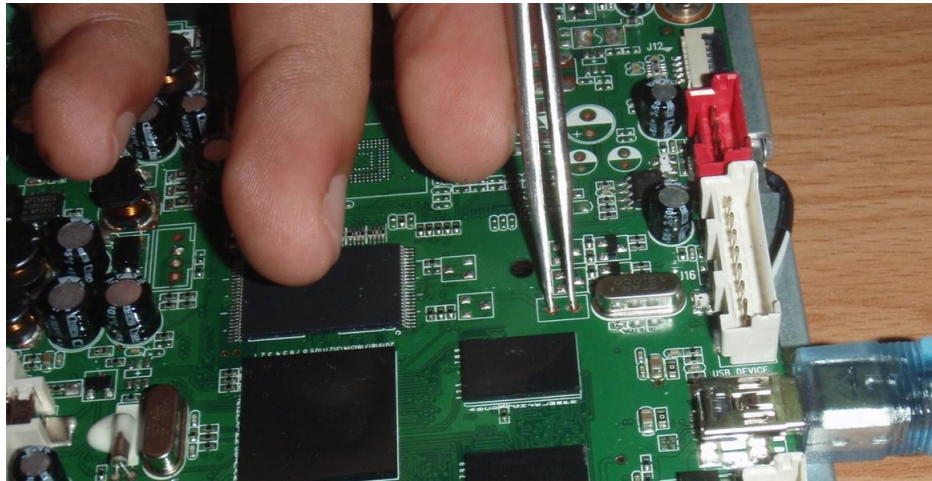


Step 5: Click on  and go to the OS NAND Files folder. Select all files and press OPEN.

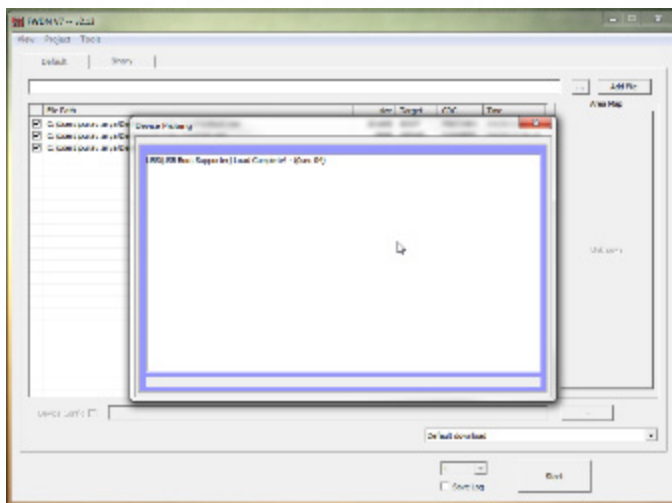
Step 6: Click on 'Add File'. The file should then be added under the file path section.

CORRECTING / FIXING THE UPPER CONTROL BOARD (Cont.)

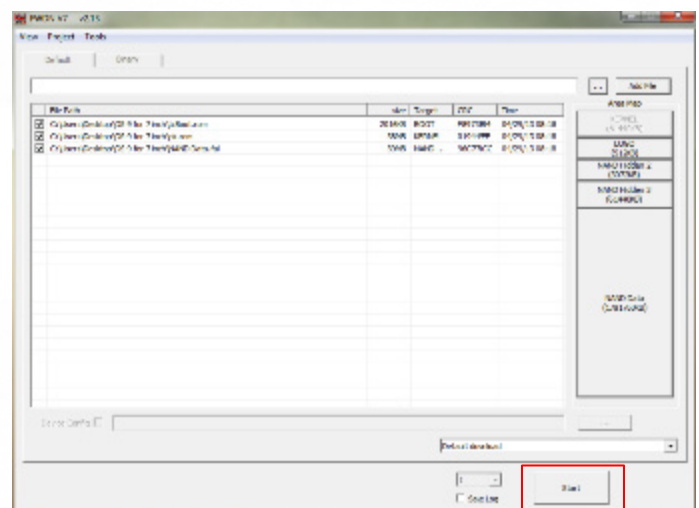
Step 7: Without applying power to the console, connect the USB to the TAPC board only. Then take the tweezers and short out the pins (or holes) as shown. Now connect the other end of the USB to the computer.



Step 8: If performed correctly, the below screen should appear. Continue to hold the tweezers in place until you see 'Completed' in the blue box.



Step 9: Click on START



Step 10: If each of the steps are completed, the box should turn green. If not, disconnect USB and repeat from step 7.

Step 11: Once completed, close out of the window, disconnect the USB from the TAPC board. Power up the console, and let the console boot up. If this works, you should see a Logo on the screen.

Step 12: Once all steps are completed, a Screen Calibration may be required. After which you will be presented with the Windows CE Screen. Proceed to the 'GUI and IO Installation' section on page 17.

Note: If console doesn't power up, after Step 11, it could be a defective PCB or Display. Please scrap and inform Electrical QE.

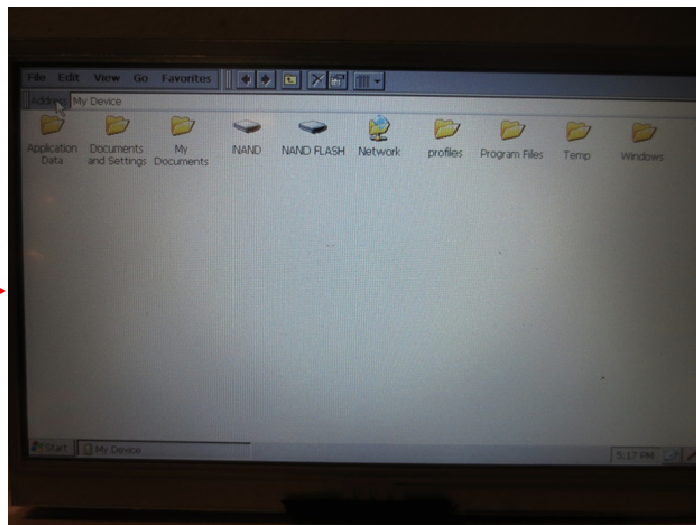
GUI AND IO INSTALLATION

If you are at the windows CE desktop screen, this process will outline the steps needed to install the GUI and IO files.

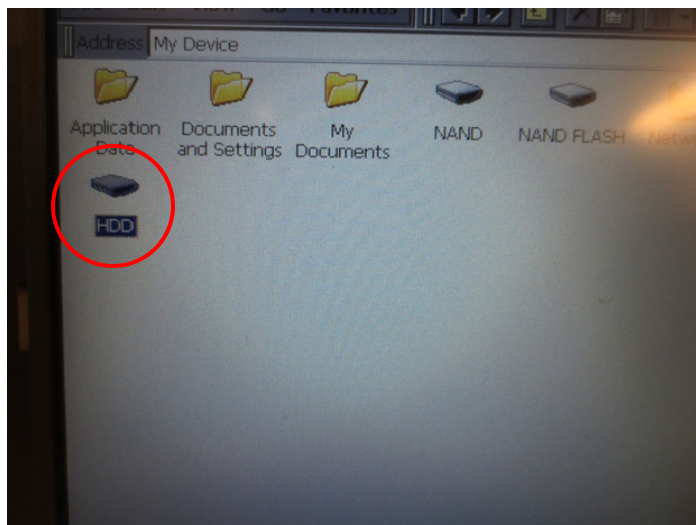
Items Needed: TAPC UCB, USB Flash Drive with Latest Software; For Non-Touch consoles, a USB Hub and USB Mouse will be required.

Step 1: Identify the console you have and download the appropriate GUI and IO software(Install Version) on to the flash drive.

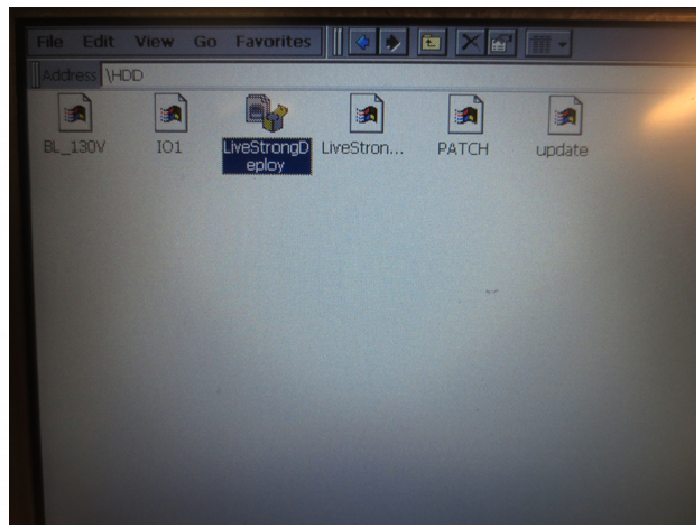
Step 2: Double-Click the “My Device” icon on the desktop. *[For non-touch consoles, attach a USB hub and connect a USB mouse into said hub. Use connected mouse to double-click on “My Device” icon]* . The window shown below will appear.



Step 3: Insert the USB Flash Drive with the downloaded software into the console’s USB port (See Pages 5-7) or USB-Hub. An HDD icon should appear as shown.



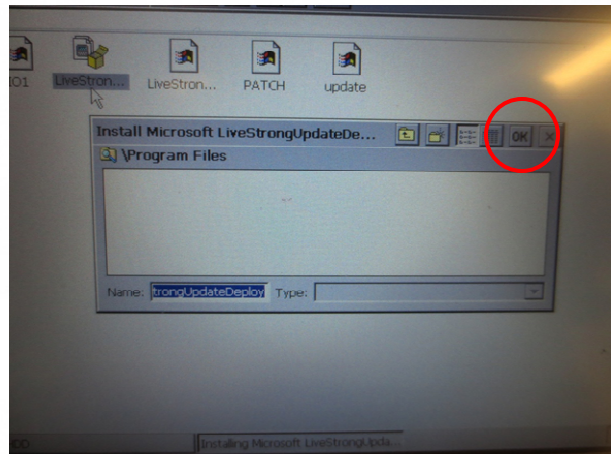
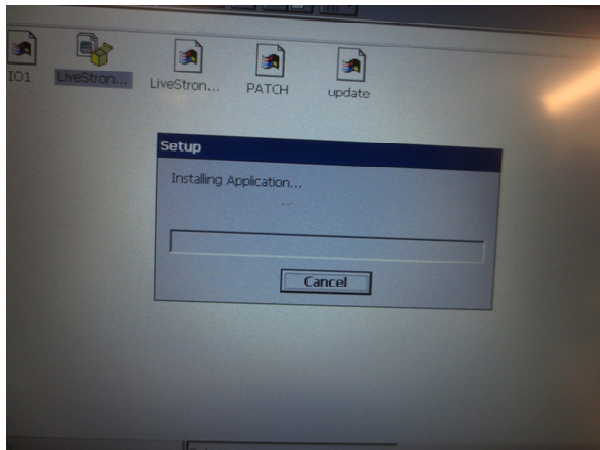
Step 4: Double-Click to open HDD Drive. The contents of the USB drive will appear. Then, Double-Click the Deploy.cab program.



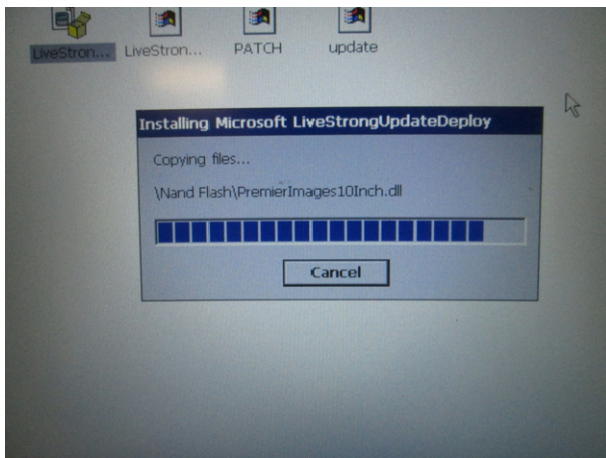
[Shown above is the contents for Livestrong LS15.0T GUI Console – Individual Deploy Files may be named differently].

GUI AND IO INSTALLATION (Cont.)

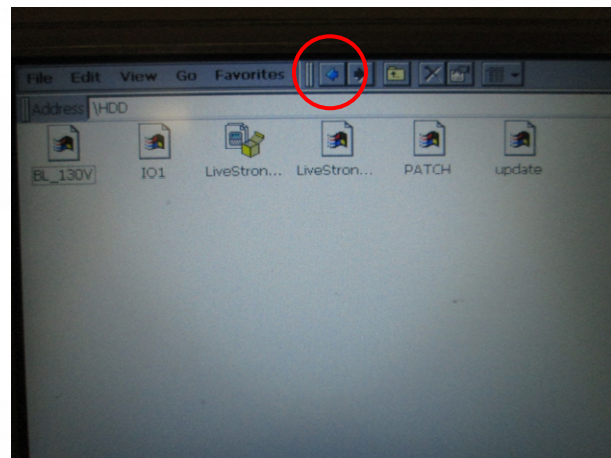
Step 5: An installation screen will appear. Click on the OK in upper right corner of the window.



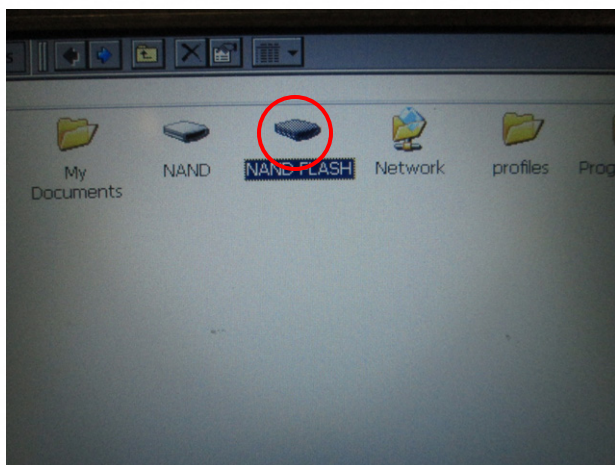
Step 6: Wait for the process to complete.



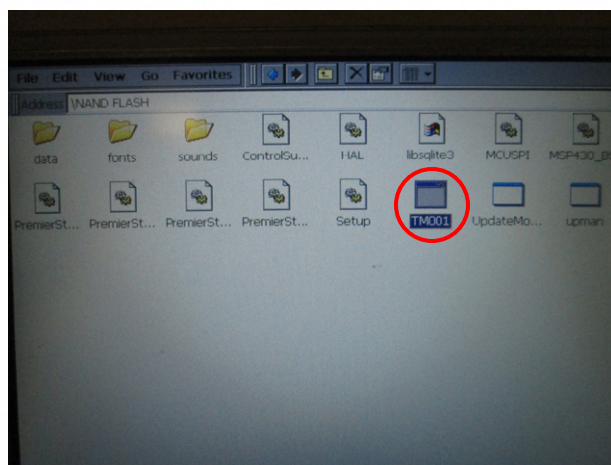
Step 7: Click on the Back Button.



Step 8: Double-Click on the NAND FLASH Drive.



Step 9: Double-Click on TM001.exe to launch GUI.



Step 10: Once the Application launches, remove and reinsert the USB once the console has fully booted up. This is so that the IO can now be installed.

Step 11: Once the IO is installed, power up the console. Enter the manager mode, and check the various software versions i.e. IO, GUI and OS. If different from what was installed, the PCB is corrupted, and the TAPC board should be delivered to the Electrical QE for further evaluation.