MATRIX	**Service Bulletin** Matrix T7xe/7xe consoles troubleshooting	
Effective Date: June. 12, 2015	**Models Affected:** HURESAC-7XE-04-C (EP613) T-7XE-04-C (TM520)	**Bulletin Num.** NB-1507008 Ver.6
Prepared by: Eric Chen		

Ver.1: Launched in July 2015.
Ver.2: Launched in Sep. 2015. Update case 6 solutions in red marked.
Ver.3: Launched in May. 2016. Update the new I-pod dongle on the solution 2 of the case 6.
Ver.4: Launched in July 2018. Updated the "Solution 1 - Check LVDS wire" process to case 3.
Ver.5: Launched in Aug 2020. Add case 13 for TM with no Tread Sense function.
Ver.6: Launched in May 2022. Add case 14 for slow countdown.

DESCRIPTION

Troubleshooting for 7xe console. Tables are organized by symptoms:

Table 1 – GUI Application Crash or Frozen Screen

Table 2 – Other Error Message

COMMON CASES

7xe console symptoms are on Table 1 and Table 2 below. Follow the 1, 2, 3, 4 steps to do troubleshooting.

Table 1: 7xe Console – GUI Application Crash or Frozen Screen

Case	Photo	Symptom (P: Persistent; I: Intermittent)	Check iPod cable	Recon-nect TV cable	Check LVDS wire	Use I-Pod dongle to WIN CE	Re-calibrate touch function	Re-install GUI S/W	Re-install UCB S/W	Replace LMM board (UCB)	Replace wifi board	Replace 15" Panel	Page
1		WIN CE screen(P)	1					2	3	4			P. 3
2		TV tab shows color screen(P)		1					2				P. 9
3		Display fuzzy or Wrong color(I)			1					2		3	P. 10
4		Touch panel no reaction(I) Quick key still can operate					1		2		3	4	P. 13
5		Console Frozen (P) Quick key can't operate					2		3	4	1	5	P. 15
6		Matrix loading screen(P)	1		2			3	4	5			P. 17

Table 2: 7xe Console – Other Error Message

Case	Photo	Symptom (P: Persistent; I: Intermittent)	Check wire connection	Check VA board	Check SD card	Check inverter wire	Check LVDS wire	Upgrade LCB S/W	Replace LMM board (UCB)	Upgrade GUI, I/O	Upgrade VA firmware	Page
7		VA function(P)	1	2	3						4	P. 26
8		Blank screen(P)				1	2		3			P. 29
9		Low Battery / 04B0(I)	1					2				P. 31
10		Keypad / Quick key(P)	1						2			P. 32
11		S/W upgrade error remind(I)		1						2		P. 34
12		Can't catch USB device(P)	1	2						3		P. 35

P.S. The 1st, 2nd and 3rd means the troubleshooting steps.

Table 3 – Matrix T7xi/7xi console troubleshooting list – continued

| Case	Symptom (I: Intermittent, P: Persistent)	Solution	Link to Page
13	Treadmills with Win CE (LMM) console has no Tread Sense function.	Install new MCB service kit (Type C2). The new MCB can support the Win CE (LMM) console with Tread Sense function.	P.38
14	Slow countdown on console.	1. Remove the iPod cable. 2. Press "2001 Enter" to open Engineering Menu, choose Other, and increase Memory Threshold. 3. If the problem continues, consider console replacement/swap.	P.40

Case 1: WIN CE screen

SYMPTOM

1. T7xe/7xe Console shows WIN CE mode when turn on machine.
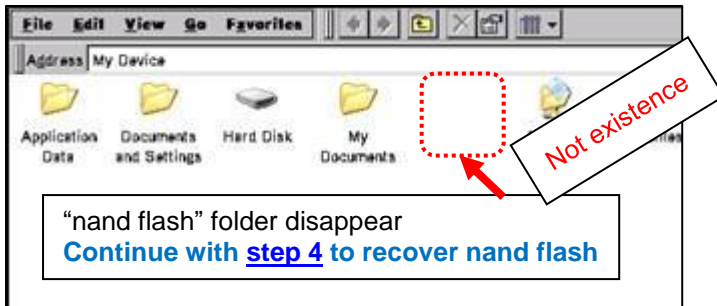

SOLUTION
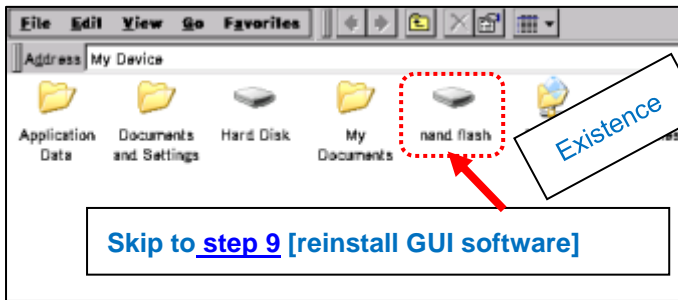
Solution 1- Check iPod cable
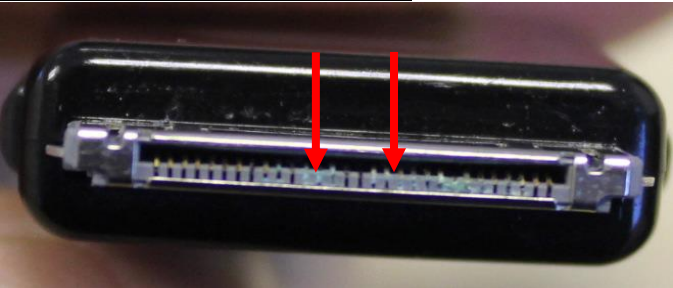
1. Check and change I-pod cable if connecter pin is rusty.
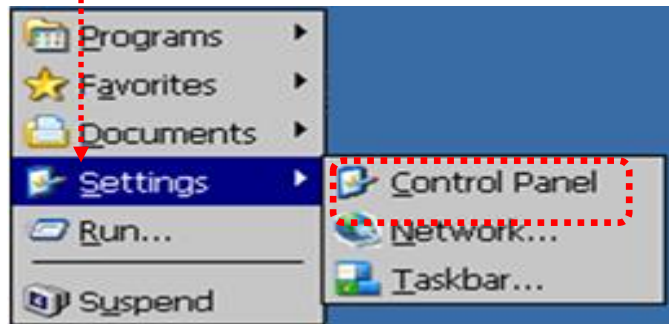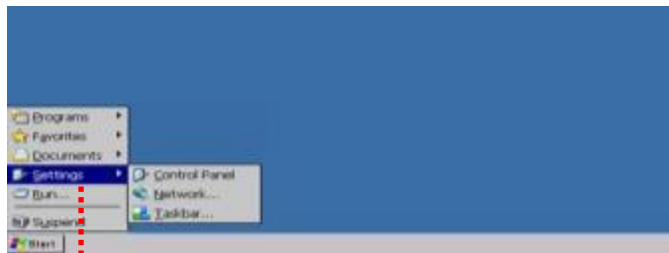
Solution 2- Re-install GUI S/W

1. Re-boot the machine.
2. If console still enter WIN CE mode, double click "My Device" on the left top of screen.

Solution 2- Re-install GUI S/W - continued

Skip to step 9 [reinstall GUI software]

"nand flash" folder disappear
Continue with step 4 to recover nand flash

3. Check if "nand flash" folder is in MY Device.
    - If the folder displays, right-click on the folder, and then choose Delete. Follow prompts to remove the folder. Note: you will receive a message saying "Tahoma" cannot be removed. Choose OK
    - If the folder does not display, continue to step 4.
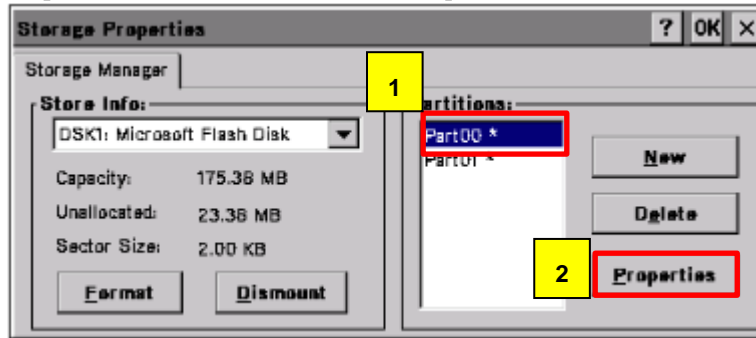
A- [Recover nand flash]

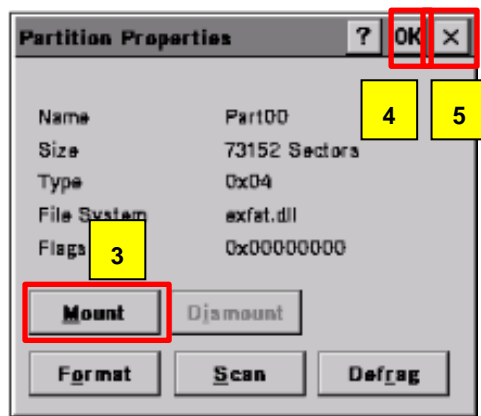4. Hit the *Start* key, and then select Control Panel.

5. Select "Storage Manager".

4

Solution 2- Re-install GUI S/W - continued

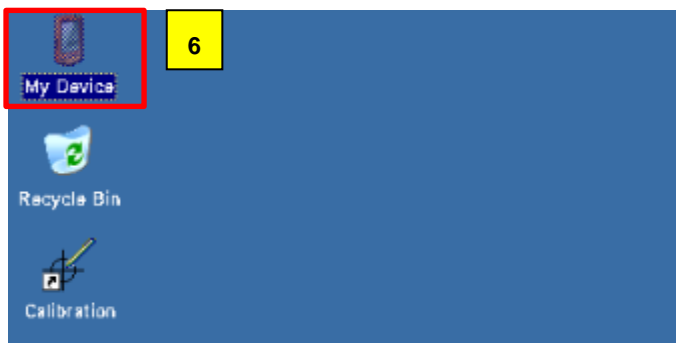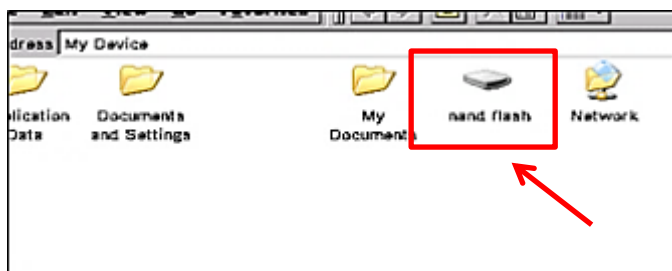**A- [Recover nand flash- continued]**

6. Select ① "Part00*"->② Properties.

7. Select ③ "Mount*" ->④ "OK"->⑤ "X".

8. Select ⑥ "My Device*". Check if "nand flash" folder is recovered.
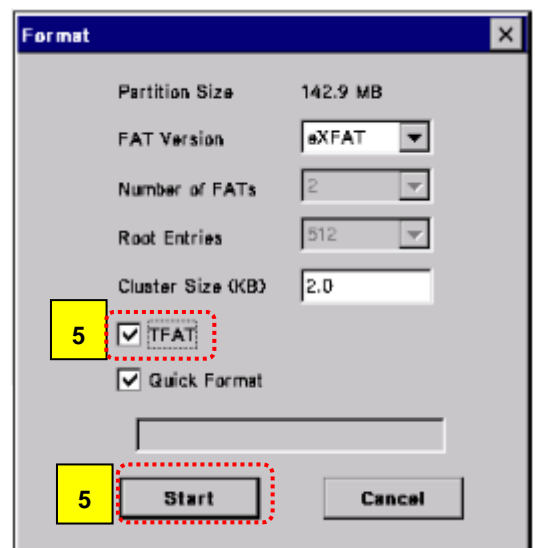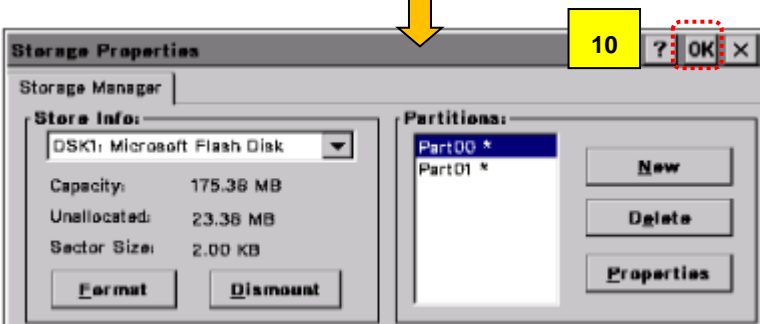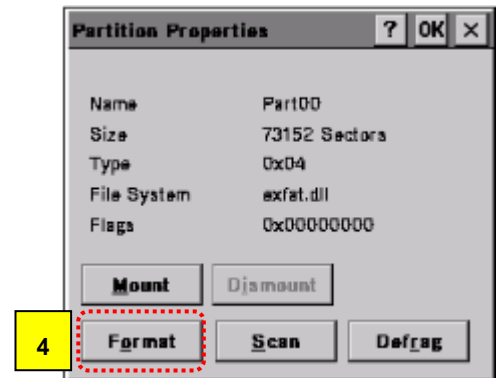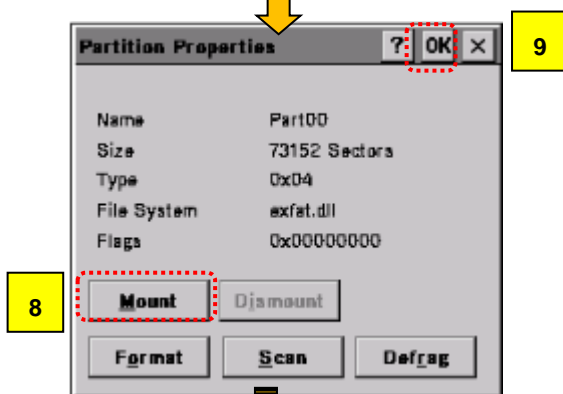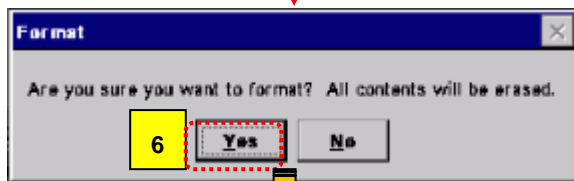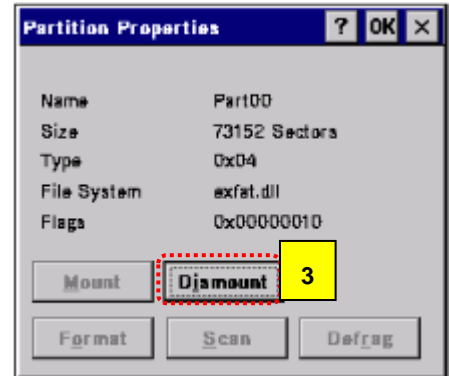
Solution 2- Re-install GUI S/W – continued

B- format "nand flash" folder

9. Select ① Part00*-> ② Properties-> ③ Dismount-> ④ Format-> ⑤ Select TFAT then "Start"->⑥ Yes-> ⑦ OK-> ⑧ Mount-> ⑨ OK.-> ⑩ OK to leave Storage Properties

6
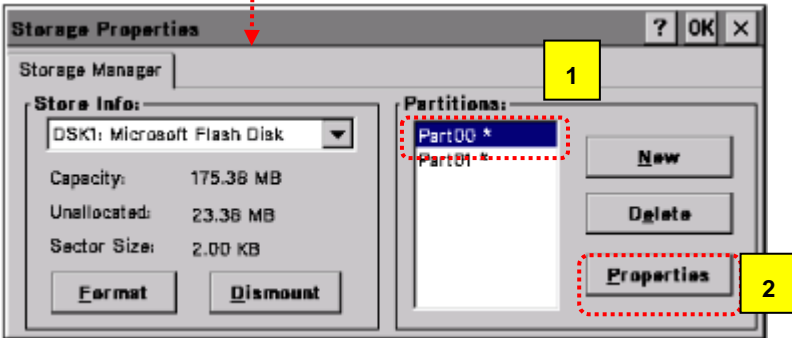
Solution 2- Re-install GUI S/W – continued
C- Reinstall GUI software to "nand flash" folder
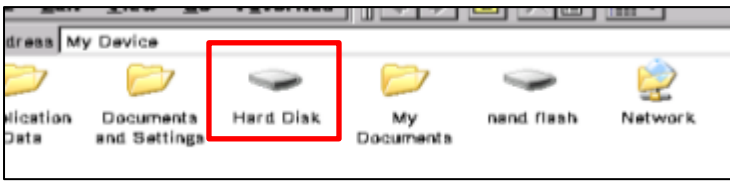
10. Insert the USB flash drive with GUI software into the USB port in the console and "Hard disk" icon shows in My device.

11. Double click "My Device" >Hard disk.

12. Double click on the "DrummondDeploy" icon and select ① "OK" then console will start to install software to "nand flash" folder.

13. After the software installation is completed, remove USB flash drive.
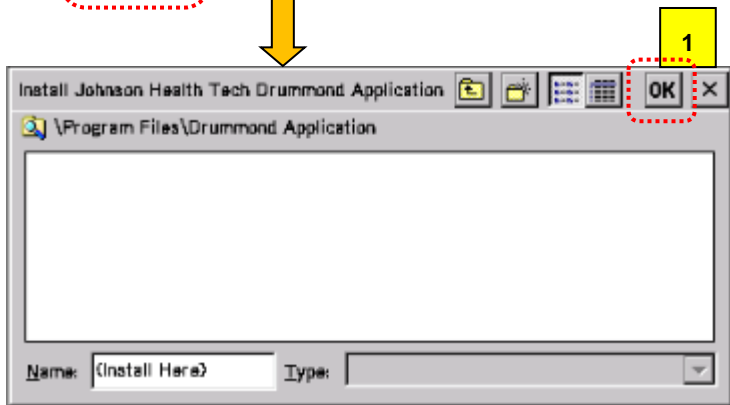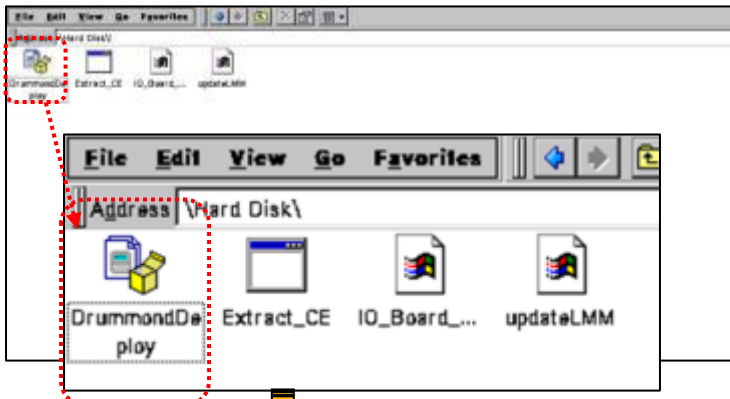
14. Double click "My Device" >nand flash> TM001 to access Matrix Go screen.
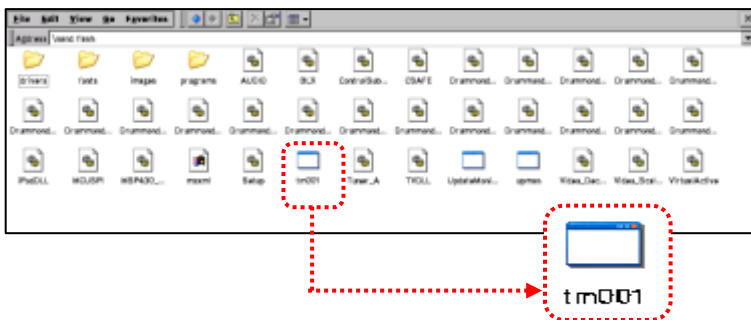
15. After console display "Go" screen, use channel ▲/▼ to reboot console.

16. Press "enter 3 0 0 1 enter" to access Service Mode. Then select the correct Machine Type and change the Service On Boot setting to NO.

17. Turn off the machine and wait 30 sec, then turn on the machine.

Solution 3- Re-install UCB S/W

Re-install console latest software of GUI, I/O and OS.

Solution 4- Replace LMM board (UCB)

Replace UCB.

Case 2: TV tab shows color screen

SYMPTOM

Console shows color screen or can't recall OSD screen as below picture.

SOLUTION

Solution 1- Reconnect TV cable

1. Turn off the machine.
2. Disconnect TV signal wire, re-plug in and cycle power.
3. Replace TV signal wire if it is damaged.

Solution 2- Re-install UCB S/W

Re-install console latest software of GUI, I/O and OS.

Case 3:   Display fuzzy or wrong color

SYMPTOM

Console has unusual color display or fuzzy screen as below picture.

SOLUTION

Solution 1- Check LVDS wire
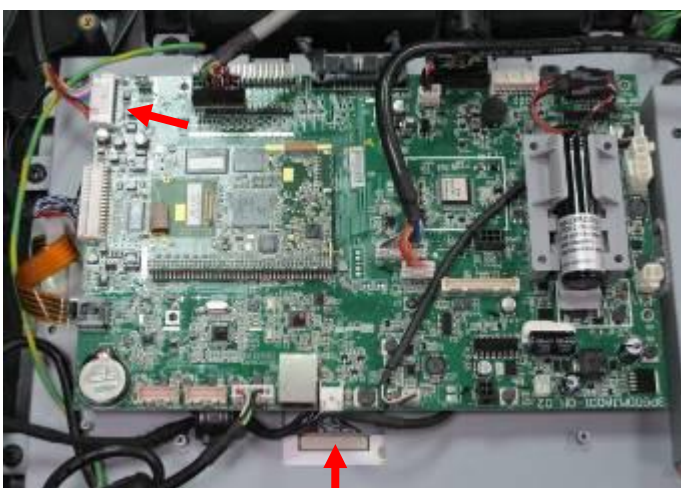
1.   Remove UCB.
2.   Check the LVDS wire connection on the LCD and the UCB. Unplug both sides and plug them in again.
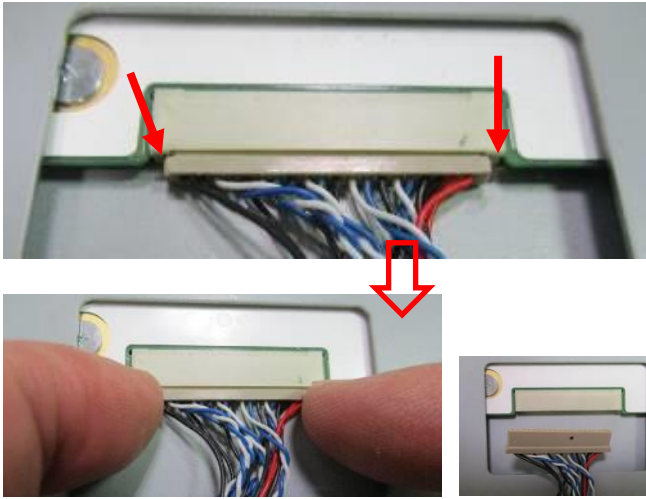
| | 3. | Remove the LVDS connector from the TFT panel set.

Note: Do not directly pull the LVDS wire. |

Solution 1- Check LVDS wire - continued

| | 4. | Squarely insert the LVDS connector into the TFT panel set. |

| | 5. | If the display issue is not solved, replace the LVDS wire. Make sure to install Mylar tape (SAP no. 1000309516 *1 pcs) over the LCD connection. |

6. Tie strap the wire to the frame.

Solution 2- Replace LMM board (UCB)

Solution 3- Replace 15" Panel

Case 4: Touch panel no reaction

SYMPTOM

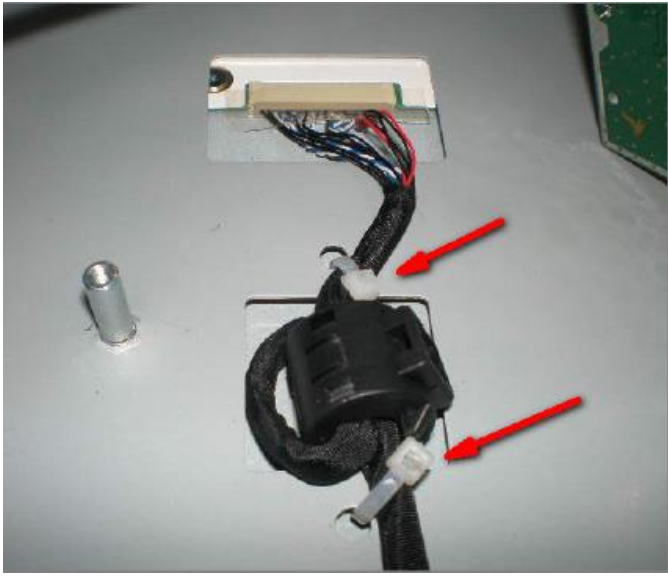Touch panel no reaction.

SOLUTION

Solution 1- Recalibrate touch function
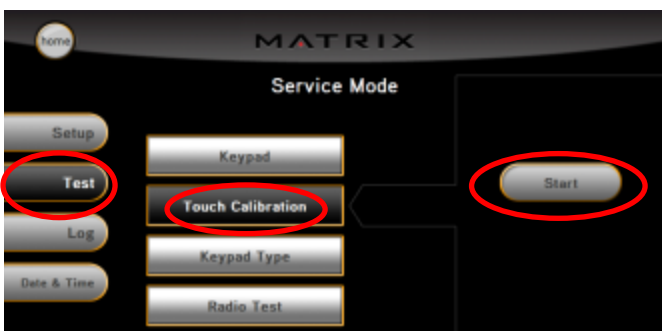
	1. Press "enter 3 0 0 1 enter" to access Service Mode. 2. Click "Test"-> "Touch Calibration"->"Start" to enter the touch panel calibration program.
	3. Or press "enter 4 0 0 6 enter" (four times) to enter Win CE mode and click the "Calibration" icon to do the touch panel calibration.

13

PenMount Calibration Program. Driver: 2.9, Fmware: 6000.6.0.0

Please touch the red point.

4. Start to do the touch panel calibration.

Solution 2- Re-install UCB S/W

Re-install console latest software of GUI, I/O and OS.

Solution 3- Replace Wifi board

1. If the touch screen still has no reaction, but keypad still "beep" when you press.
2. Please try to disconnect Wifi board and cycle power.
3. Check if console works fine after wifi board is disconnected.
   - If yes, replace Wifi board.
   - If not, go to solution 4.

Solution 4- Replace 15" Panel

Replace 15" panel.

Case 5: Console Frozen

SYMPTOM

Console touch panel no reaction, keypad no function (without beep sound when press)

SOLUTION

Solution 1- Replace Wifi board

1. The touch screen has no reaction and keypad has no "beep" sound when press.
2. Please try to disconnect Wifi board and cycle power.
3. If console works fine after wifi board is disconnected, replace Wifi board.
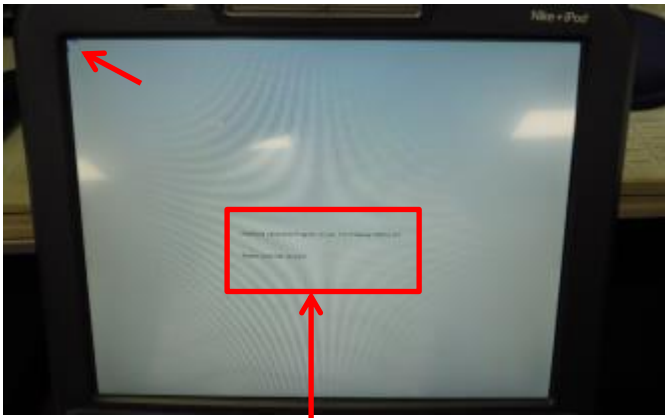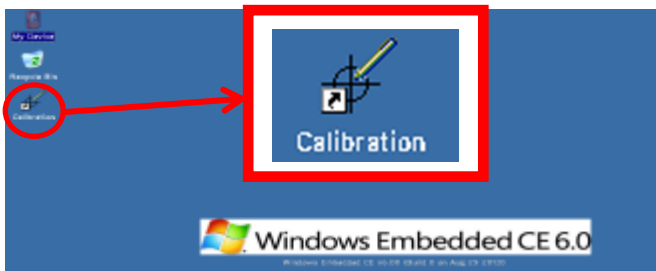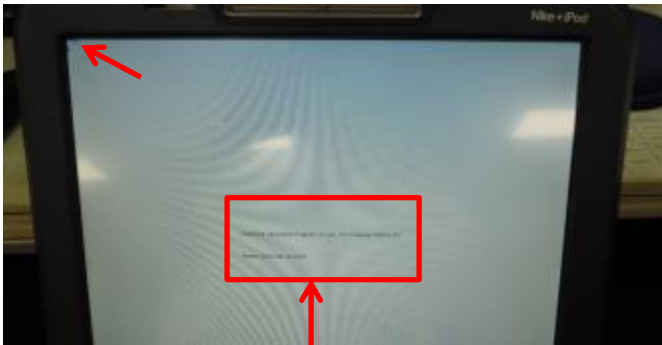
Solution 2- Recalibration touch function

1. Press "enter 3 0 0 1 enter" to access Service Mode.
2. Click "Test"-> "Touch Calibration"->"Start" to enter the touch panel calibration program.

5

3. Or press "enter 4 0 0 6 enter" (four times) to enter Win CE mode and click the "Calibration" icon to do the touch panel calibration.

PenMount Calibration Program, Driver: 2.9, Firmware: 6000.6.0.0

Please touch the red point.

4. Start to do the touch panel calibration.

Solution 3- Re-install UCB S/W

Re-install console latest software of GUI, I/O and OS.

Solution 4- Replace LMM board (UCB)

Replace UCB.

Solution 5- Replace 15" Panel
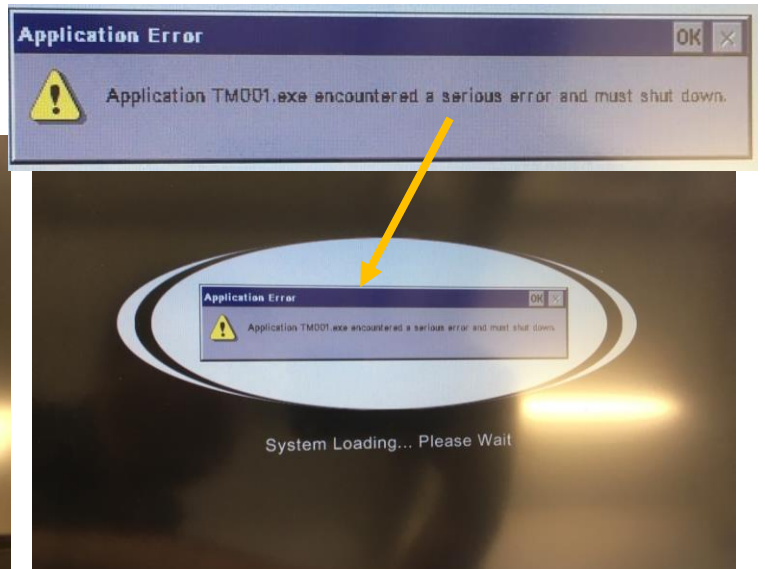
16

Replace 15" panel.
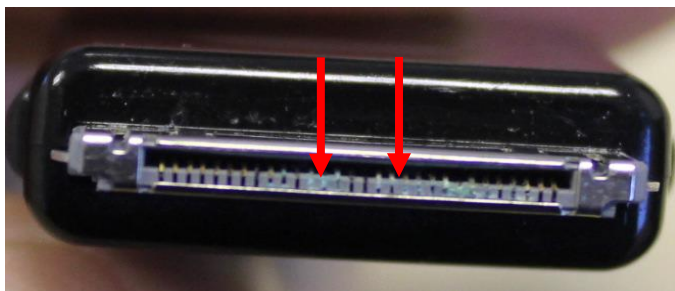
Case 6: Matrix loading screen

SYMPTOM

Console shows "Matrix system loading" or "Matrix Application Error" and can't access to "Go" screen.

SOLUTION

Solution 1- Check iPod cable

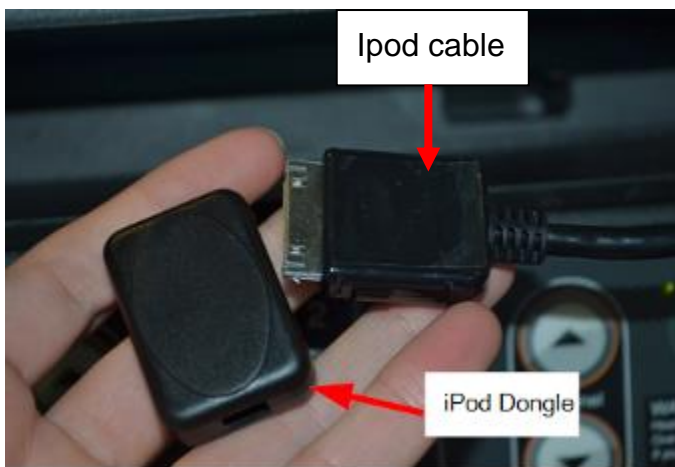1. Check and change I-pod cable if connecter pin is rusty.

Solution 2- Use I-Pod dongle to get in WIN CE

1. Check if the screen on the left bottom has date code message (e.g. Feb 16 2012).
   - If not, update E-boot software (go to steps 2 ~ 14 and solution 3).
   - If yes, go to steps 2 ~ 6 and solution 3.

Solution 2- Use I-Pod dongle to WIN CE- continued

Ipod cable

iPod Dongle

2. Turn off machine power.
3. Insert I-pod dongle (part number #1000371126) to Ipod cable.

Update process... 4/4
Erase User Space Partition Success

100%
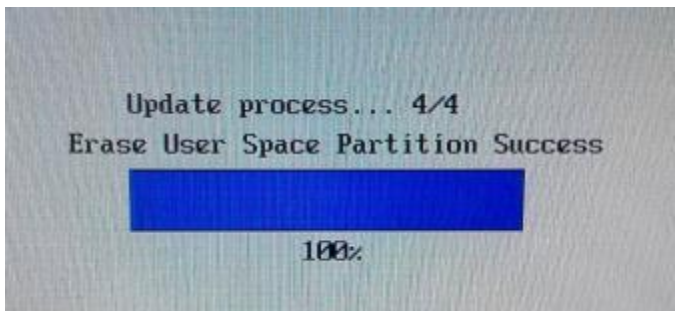
4. Turn on machine power.
5. The screen will run update process from 1/4 to 4/4 automatically. When the update process is completed, console will enter WIN CE screen.
6. Remove I-pod dongle.

[Eboot program upgrade]

Note: As mentioned in step 1, if the screen has no date code message on left- down corner, continues to do the E-Boot program upgrade.
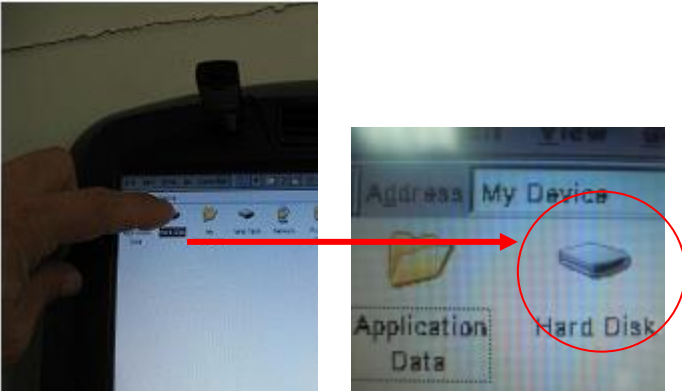
7. Insert the USB device with E-Boot program into the USB port at the front of console first. Then double-click "My Device" to enter the folder

8. Double-click "Hard Disk" to access USB folder.

Solution 2- Use I-Pod dongle to WIN CE- continued
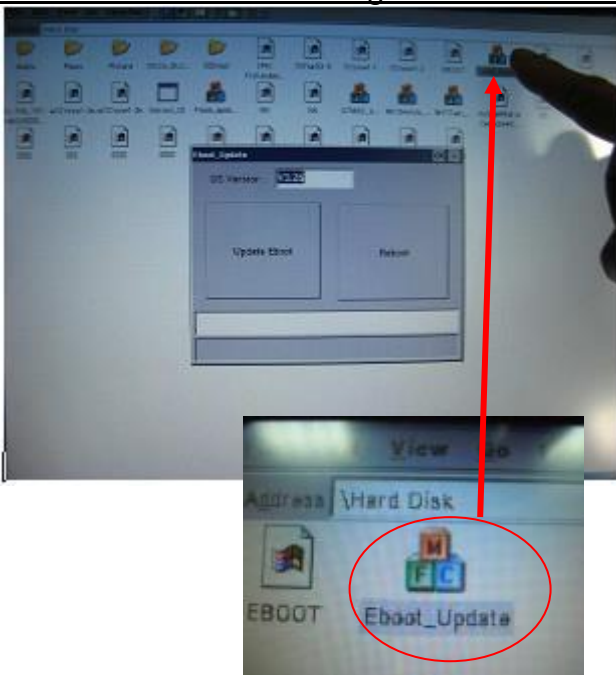
9. Double click "Eboot_Update" and flash-update icon will show up.
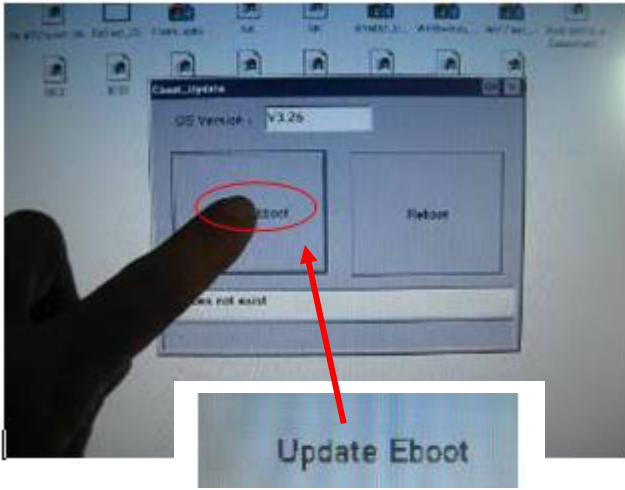
10. Continue to select and double click "Update Eboot".

11. A prompt shows "Eboot_Update". Press "OK" and the Hard Disk icon will appear.

Solution 2- Use I-Pod dongle to WIN CE- continued

12. Double click "Eboot" program to start upgrade process.

   Notice: Please don't power off during upgrade process.

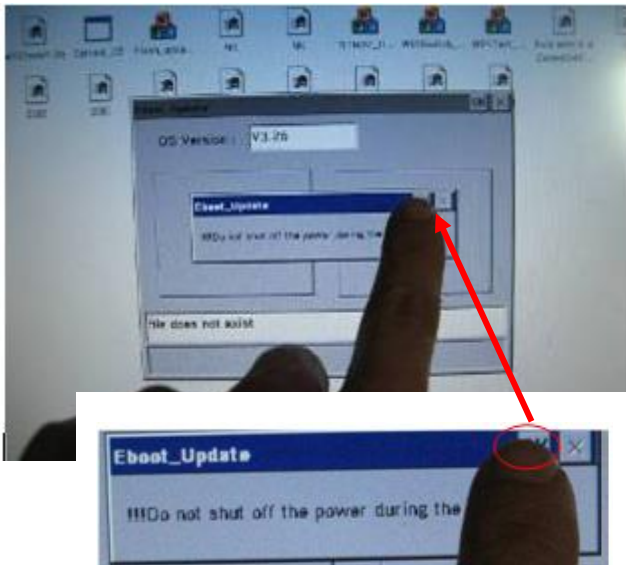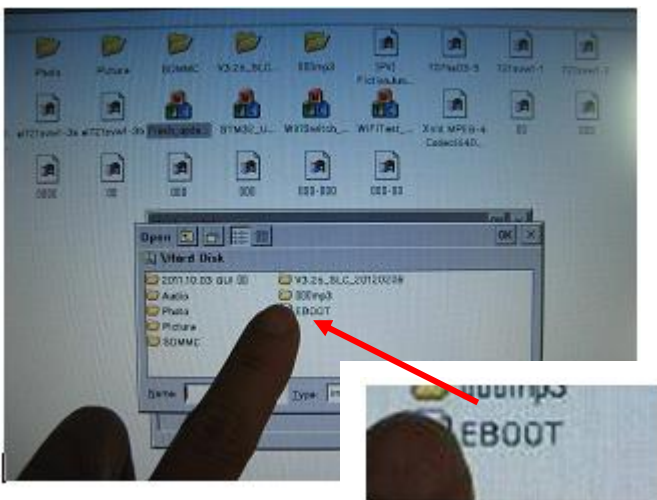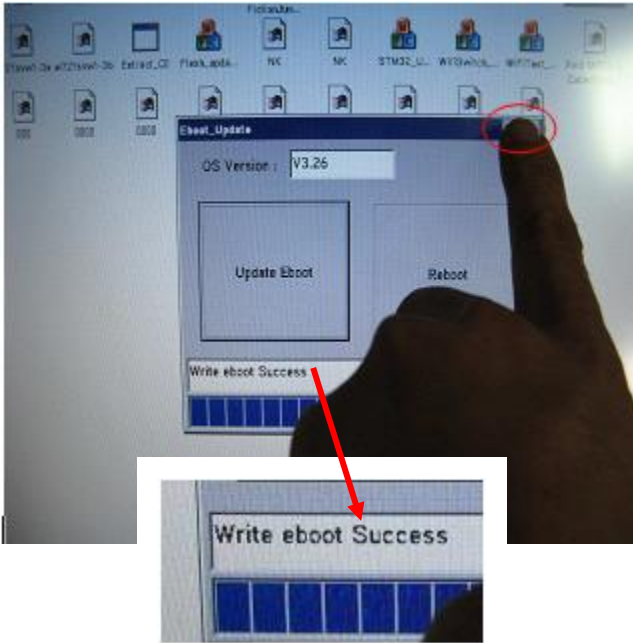13. When the message shows "write eboot Success", it means the update is completed.
    13.1 Please press "X" to close this window after update complete.
    13.2 Remove the USB device.

14. Continue to solution 3.

Solution 3- Re-install GUI S/W

1. Click "My Device" on the left top of screen.

Solution 3- Re-install GUI S/W - continued

Existence

Skip to step 8 [reinstall GUI software]

2. Check if "nand flash" folder is in MY Device.
   - If the folder displays, right-click on the folder, and then choose Delete. Follow prompts to remove the folder. Note: you will receive a message saying "Tahoma" cannot be removed. Choose OK
   - If the folder does not display, continue to step 3.

Not existence
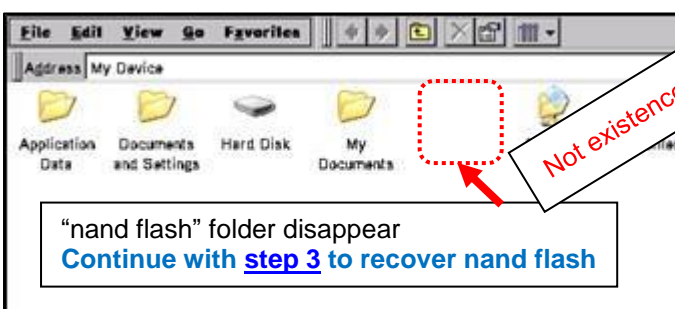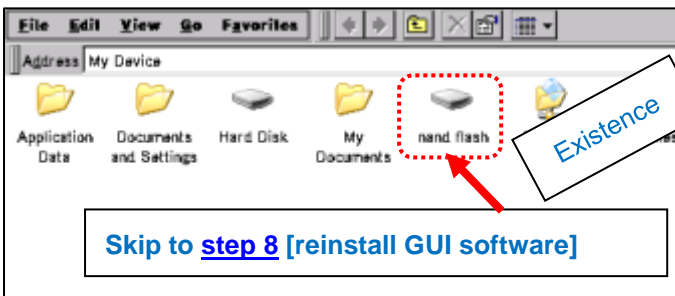
"nand flash" folder disappear
Continue with step 3 to recover nand flash

A- [Recover nand flash]
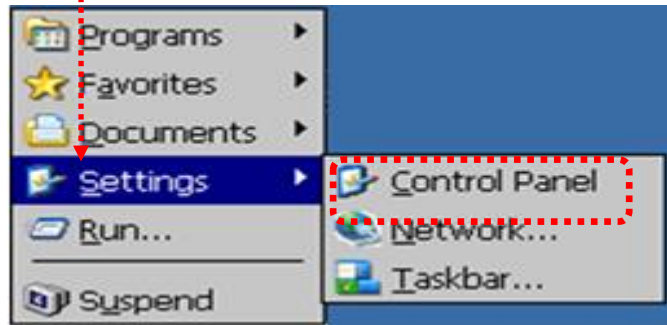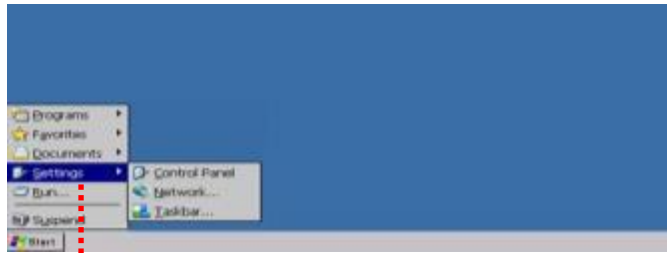
3. Hit the *Start* key, and then select Control Panel.

4. Select "Storage Manager".

Solution 3- Re-install GUI S/W - continued

A- [Recover nand flash- continued]

6. Select ① "Part00*"->② Properties.

7. Select ③ "Mount*" ->④ "OK"->⑤ "X".

3

6

My Device

Recycle Bin

Calibration

Address | My Device

nand flash

Network
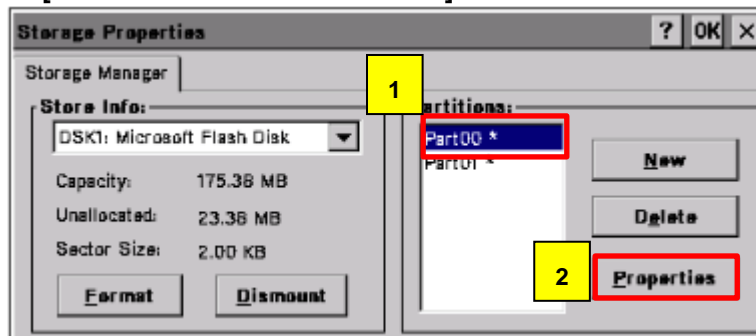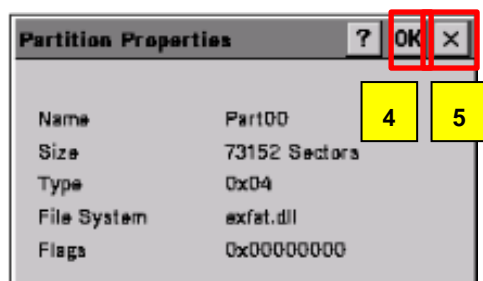
8. Select ⑥ "My Device*". Check if "nand flash" folder is recovered.
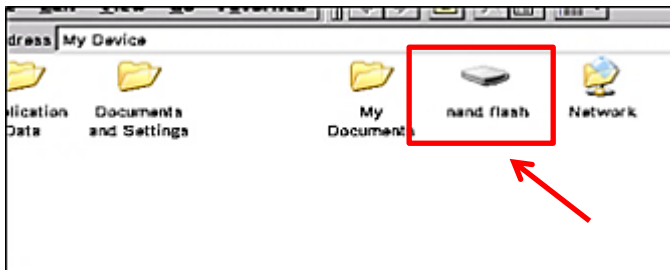
Solution 3- Re-install GUI S/W – continued

B- format "nand flash" folder

8. Select ① Part00*-> ② Properties-> ③ Dismount-> ④ Format-> ⑤ Select TFAT then "Start"->⑥ Yes-> ⑦ OK-> ⑧ Mount-> ⑨ OK.-> ⑩ OK to leave Storage Properties

Storage Properties

Storage Manager

1

Store Info:
DSK1: Microsoft Flash Disk

Capacity: 175.38 MB
Unallocated: 23.36 MB
Sector Size: 2.00 KB

Partitions:
Part00 *
Part01 *

New

Delete

Properties

Format   Dismount

Partition Properties

Name   Part00
Size   73152 Sectors
Type   0x04
File System   exfat.dll
Flags   0x00000010

Mount   Dismount

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2

3

Format

Are you sure you want to format? All contents will be erased.

6 Yes   No

7 Format   OK

Format Complete

Partition Properties   **9**   OK

Name   Part00
Size   73152 Sectors
Type   0x04
File System exfat.dll
Flags   0x00000000

8 Mount   Dismount

Format   Scan   Defrag

Partition Properties   ? OK X

Name   Part00
Size   73152 Sectors
Type   0x04
File System exfat.dll
Flags   0x00000000

Mount   Dismount

4 Format   Scan   Defrag

Format   X

Partition Size   142.9 MB

FAT Version   eXFAT

Number of FATs   2

Root Entries   512

Cluster Size (KB)   2.0

5 ☑ TFAT

☑ Quick Format

5 Start   Cancel

Storage Properties   **10**   ? OK X

Storage Manager

Store Info:
DSK1: Microsoft Flash Disk

Capacity: 175.38 MB
Unallocated: 23.38 MB
Sector Size: 2.00 KB

Format   Dismount

Partitions:
Part00 *
Part01 *

New
Delete
Properties

Solution 3- Re-install GUI S/W – continued
C- Reinstall GUI software to "nand flash" folder

Address My Device

Application Data   Documents and Settings   Hard Disk   My Documents   nand flash   Network

File Edit View Go Favorites

DrummondDeploy   Extract_CE   IO_Board_...   updateLMM

File Edit View Go Favorites

Address \Hard Disk\

DrummondDeploy   Extract_CE   IO_Board_...   updateLMM

9. Insert the USB flash drive with GUI software into the USB port in the console and "Hard disk" icon shows in My device.

10. Double click "My Device" >Hard disk.

11. Double click on the "DrummondDeploy" icon and select ① "OK" then console will start to install software to "nand flash" folder.

12. After the software installation is completed, remove USB flash drive.
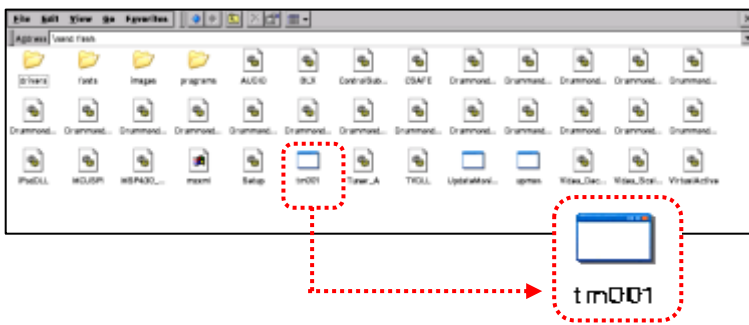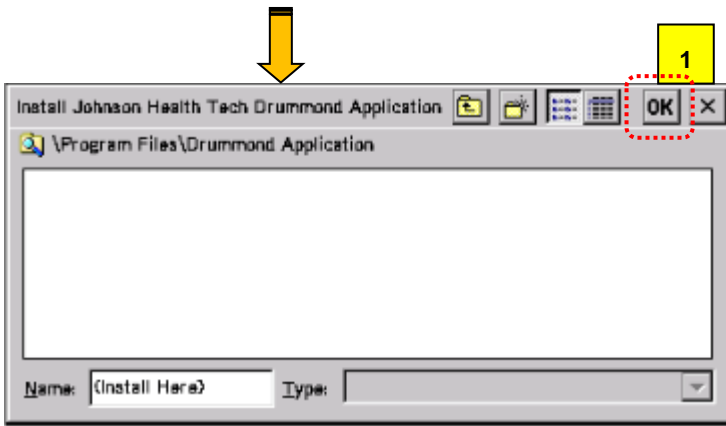
	13. Double click "My Device" >nand flash> TM001 to access Matrix Go screen.
	14. After console display "Go" screen, use channel ▲/▼ to reboot console. 15. Press "enter 3 0 0 1 enter" to access Service Mode. Then select the correct Machine Type and change the Service On Boot setting to NO. 16. Turn off the machine and wait 30 sec, then turn on the machine.

Solution 4- Re-install UCB S/W

	Re-install console latest software of GUI, I/O and OS.

Solution 5- Replace LMM board (UCB)

	Replace UCB.

Case 7: VA function

SYMPTOM
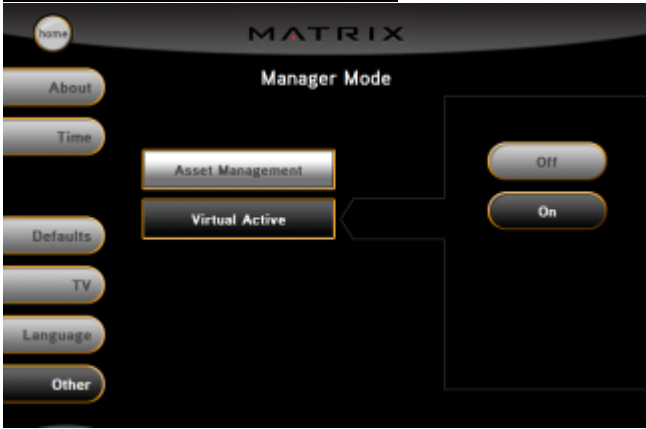
VA is not working.

SOLUTION

Solution 1- Check wire connection

	Check the connection from the VA board to UCB.

Solution 2- Check VA board

1. Press "enter 1 0 0 1 enter" to access Manager Mode. Press "Other"->"Virtual Active" and select it to "On".
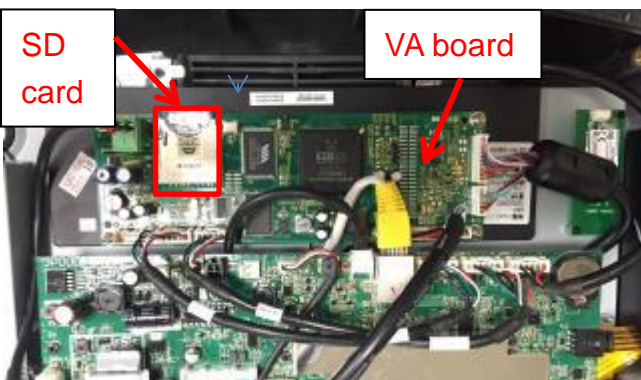

2. Press "About" to check if VA software version is "291.
   - If it's "0", replace VA board.
   - If it's 291, but the VA icon is still grey instead of red, please go to solution 3.
   - If it's 285, please go to solution 3 and 4.
   (P.S. The VA firmware must be upgraded to the latest version 291).

Solution 3- Check SD card
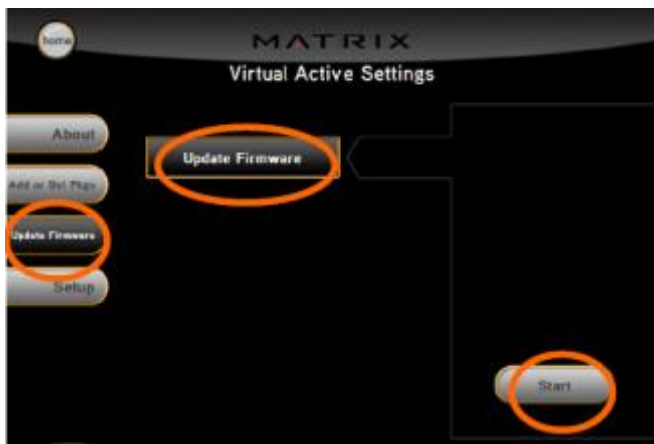

SD card

VA board

1. Check the SD card connection on the VA board.
   - Please remove the SD card from VA board and plug in again

2. Press "enter 2 0 0 7 enter" to access ""Virtual Active Settings".
3. Check if Virtual Active Setting can display SD card VA package and default volume.
   - If not, replace SD card.
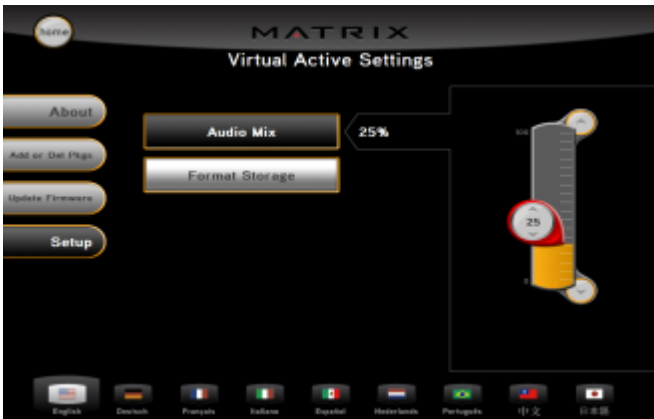
Solution 4- Upgrade VA firmware

1. Insert the USB Drive with VA firmware into the USB port in the console.
2. Select "Update Firmware" and press "Start".

3. The screen will show "install Virtual Active Software", press "Yes".

4. After a few seconds, the machine will auto run the upgrade.
   Notice: Don't power down the machine during the program update.

5. When the display shows "Update complete = 100%", remove the USB and turn off power.

6. Press "enter 1 0 0 1 enter" to access Manager Mode. Press "About" to check if "Software Version" is the new one.
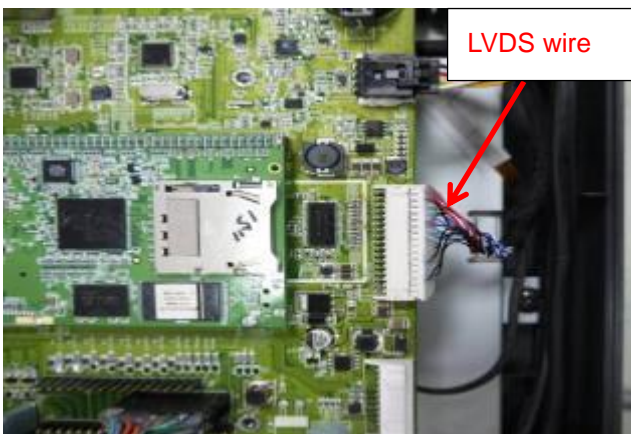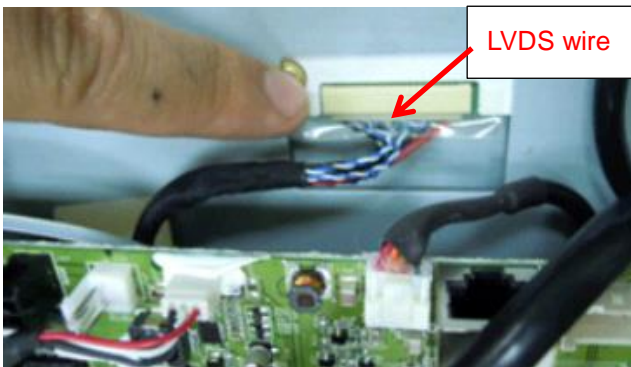
Case 8: Blank screen

SYMPTOM

Console shows blank screen, but LCM (Low display) is on.

The LCM screen is on

SOLUTION

Solution 1- Check LVDS wire

LVDS wire
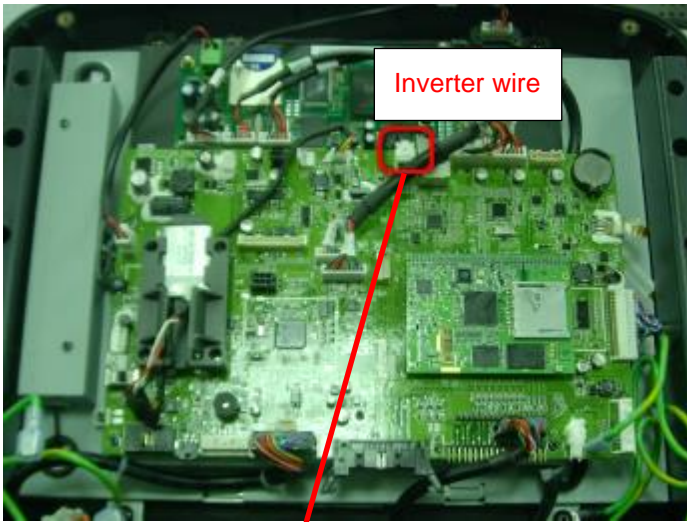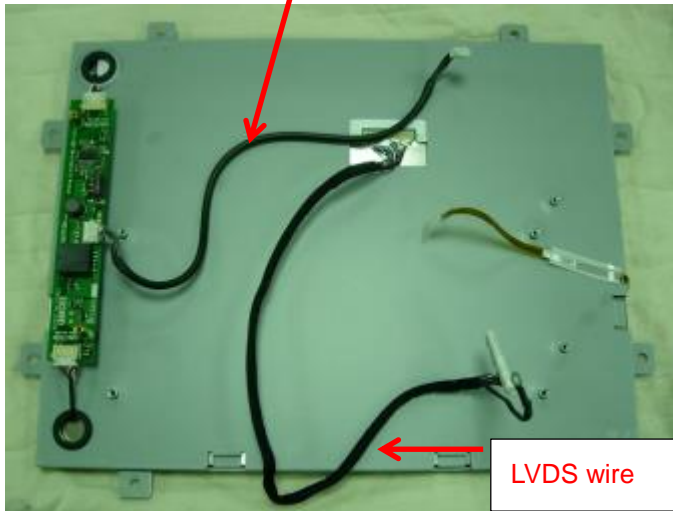

LVDS wire

Check the LVDS wire connection on the UCB and TFT panel. Replace the LVDS wire if it's damaged.
If the issue persists, please continue with solution 2.

Solution 2- Check inverter wire

Inverter wire

LVDS wire

Check the inverter wire connection on the UCB and inverter. Replace the inverter wire if it's damaged.

Solution 3- Replace LMM board (UCB)

Replace LMM board.

Back to Table 2

Case 9: Low Battery / 04B0

SYMPTOM

Console is showing pedal faster, low battery then 04B0 error code (only happen with self-power mode).

SOLUTION

1. Check the connection of the console communication cable on console and the MCB.

2. This is a software data loss issue of LCB1. Require upgrade LCB software or replace LCB. Please refer to NB-1311006.

Case 10: Keypad / Quick key

SYMPTOM

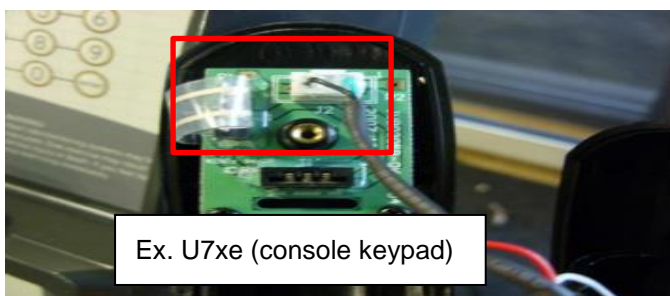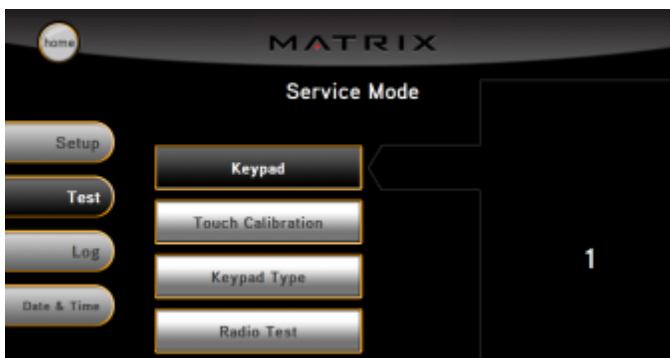Keypad or Quick Key no reaction.

Keypad

Quick Keypad

Ex. U7xe

SOLUTION

Solution 1- Check wire connection

A. Check the console keypad wire connection
  1. Press "enter 3 0 0 1 enter" to access Service Mode.
  2. Use Keypad test to confirm if the buttons are functional.
  3. Check keypad wire connection and replace it if necessary.

Ex. U7xe (console keypad)

B. Check the quick Key wire connection
  - Check the quick keypad wire connection and replace it if necessary.

Solution 2- Replace LMM board (UCB)

Replace LMM board.

Case 11: S/W upgrade error remind

SYMPTOM

During software update, console shows error message as below.

There has been an error updating the application! Please reboot and try again. Contact technical support if this error persists.

SOLUTION

Solution 1- Check VA board

Plug in USB to update software

If VA is installed on the console, wait until the Virtual Active icon on the standard display picture turns red prior to updating the software.

If this console is installed with VA board, please wait VA icon to become red.
(**Reason:** Grey VA icon results in this issue.)

Solution 2- Upgrade GUI, I/O
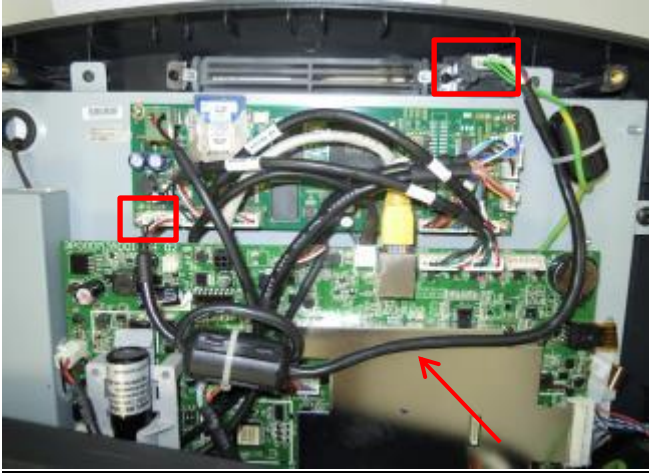

Re-install console latest software of GUI, I/O.

Case 12: Can't catch USB device

SYMPTOM

When plug in USB to upgrade S/W, the console cannot auto run install process.
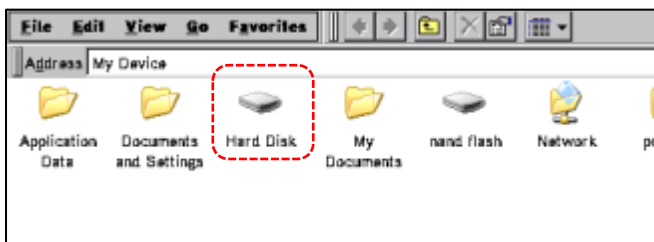
SOLUTION

Solution 1- Check wire connection

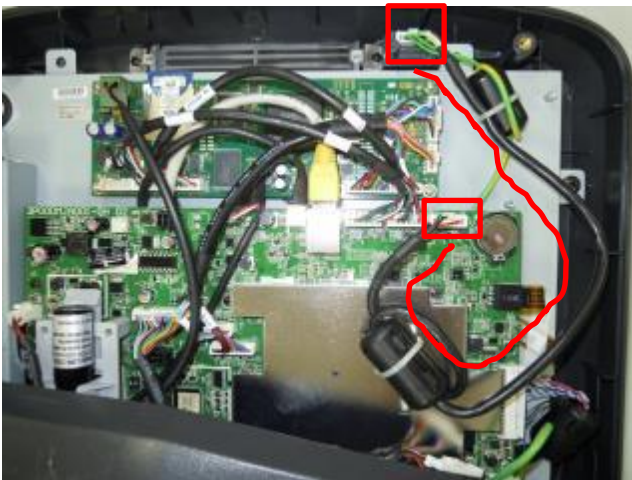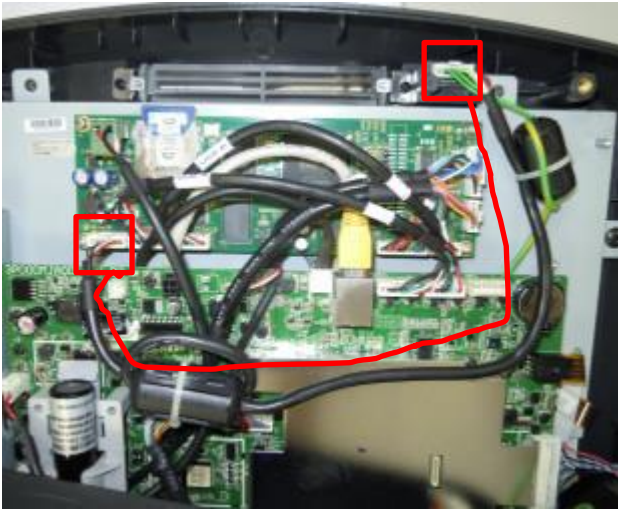Check the USB wire connection and replace it if necessary.

Solution 2- Check VA board

1. This situation will happen on T7xe/7xe with VA board.
2. Press "enter 4006 enter" four times to enter WIN CE mode.
3. Select "My Device." If there is no "Hard Disc", go to step 4.
   Notice: To identify this issue, please plug in the USB after enter WIN CE mode.

Solution 2- Check VA board- continued

4. Please un-plug the USB cable from VA board.
5. Plug in the USB cable to Console control board directly. Re-boot the machine to start software upgrade process.

P.S. The purpose is by- pass the failure VA board. If the VA is damaged, replace it if necessary.

Solution 3- Upgrade GUI, I/O

Re-install console latest software of GUI, I/O.

Case 13: Treadmill has no Tread Sense function

SYMPTOM

If the current production MCB for the TM501 treadmill (type C7; Part numbers: 110V 1000435058 / 220V 1000435059) is used as a service part on a unit with the old WIN CE console (LMM / LAM ~2016/08), the Tread Sense function will not work

Win CE console: LMM: T7xe-TM503 / Universal 7xe-EP92 / T7x-TM502 / Universal 7x-EP91

LAM: T7xe-TM520 / Universal 7xe-EP613

Case Referred: JHT-NA OLS-2007177 Tread Sense not working

REASON

MCB type C7 does not support the Tread Sense function on the Win CE (LMM) console

SOLUTION

Field service:

Modify the MCB type from C7 to C2, so the C2 can support the WIN CE (LMM) console with Tread Sense function.

*Please refer Table-1 / 2 for new MCB SAP Part Number / Difference

Table -1. Below of new MCB SAP part number (Only for Win CE console)

	SAP Part Number	Description
110V	1000457109	Motor Control Board Set;;;Only for WinCE;;110V
220V	1000457111	Motor Control Board Set;;;Only for WinCE;;220V

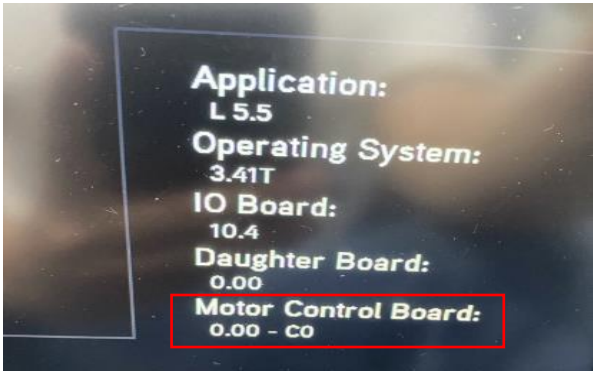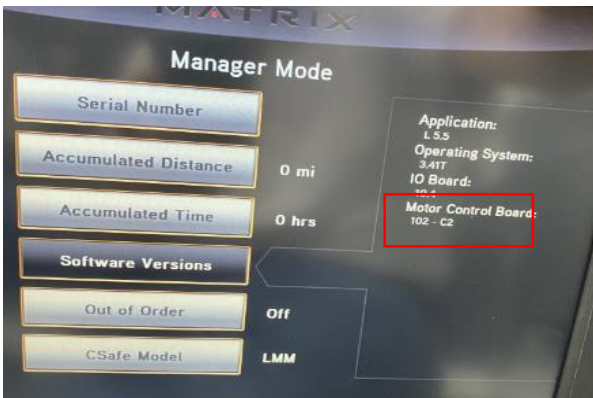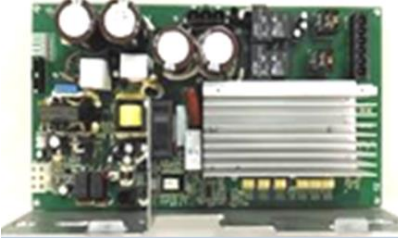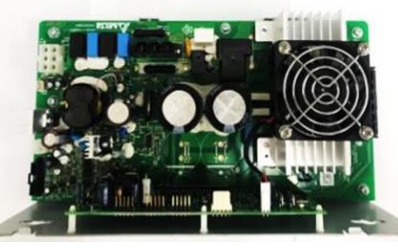| MCB Type / Software	Tread Sense Function	Pic
C7(current production) **0.00 – C0**	No	
C2 (Win CE only) **102-C2**	Yes	

Table -2. Below picture of difference between old and new MCB

	OLD ~ 2018/9/24	NEW Type C7 2018/11/23 ~ (Current Production)	NEW Type C2 2020/09/01 ~ (Only for Win CE console)
110V	0000094477 (S/W – v006)	1000435058 (S/W – v106)	1000457109 (S/W – v102)
	MODEL:JHT015M21B CUSTOMER CODE : JHT1000228669 INPUT : 1PH 90-120V、200-240V 50/60Hz 15.7A OUTPUT : 3PH 200-230V 7.0A 2.7KVA 1.5kW/2.0HP Version : 01.20 JHT Version : 010 CE RoHS Compliant J15M12A6T18450005 DELTA ELECTRONICS, INC. MADE IN TAIWAN 2A – 110V	110V	110V
220V	1000228669 (S/W – v32)	1000435059 (S/W – v101)	1000457111 (S/W – v102)
	MODEL:JHT015M21B CUSTOMER CODE : JHT1000228669 INPUT : 1PH 90-120V、200-240V 50/60Hz 15.7A OUTPUT : 3PH 200-230V 7.0A 2.7KVA 1.5kW/2.0HP Version : 01.20 JHT Version : 010 CE RoHS Compliant J15M12A6T18450005 DELTA ELECTRONICS, INC. MADE IN TAIWAN 1B – 220V	220V	220V

Case 14: Slow Countdown on Console

SYMPTOM

When the Start button is pushed, the console slowly counts down. The timing of the countdown feels delayed.

REASON

Corroded iPod cable or low memory threshold.

SOLUTION

Solution 1- Remove the iPod cable

Solution 2 - Increase Memory Threshold

Press "2001 Enter" to open Engineering Menu, choose Other, and then increase the Memory Threshold. The memory threshold default is 30%.

Solution 3 - Console swap

If the problem continues, the customer may consider purchasing a compatible refurbished console. Refurbished Windows CE (LMM and LAM) consoles are no longer available, but a refurbished Android 7xe/7xi console can be used with the customer's original frame; some additional parts are required to complete the installation. See the appropriate Service Bulletin in Online Remedy for more information: "Swap LMM to Android Console" or "Panel Board Replacement - Swap LAM to Android Console".

Note: LMM console serial numbers begin with CTM503F, CTM503G, or EP92F. LAM console serial numbers begin with CTM520 or EP613.

The solutions for the equipment in the field and warehouse

1	Affected Models (JHT no.)	LMM: T7xe-TM503 / Universal 7xe-EP92 / T7x-TM502 / Universal 7x-EP91 LAM: T7xe-TM520 / Universal 7xe-EP613			
2	NA ECR no.	ECR20080004	10	Old part number	N/A
3	JHT ECO no.	ECO20080004	11	Old price	N/A
4	Implemented date	N/A	12	New part number	1000457109 1000457111
5	Started s/n	N/A	13	New price	N/A
6	Field service suggestion	■ case by case □ club by club □ rework all	14	S-BOM updated	N/A
7	Units in the warehouse	■ no action required □ replace all	15	S-Drawing update	N/A
8	Parts in stock	■ running change □ immediate change	16	Photos attached	Yes
9	video available	no	17	SOP attached	N/A
	Bulletin type (Draft version or Final version)				
□	Draft version due to the implement date and started S/N are not ready yet.				
■	Final version, All completed				