



APPLICATION NOTE

APP-108- Rev 1.3 9 POINT CALIBRATION

Revision History

Date	Author	Revision	Description
10-12/14-15	DEW	Rev. 1.0	SD Card, Firmware, Calibration upgrade

Create SD Card Firmware Update 9 POINT CALIBRATION for MCS-TOUCH-7 and MCS-TOUCH-15.4

Revision 10-15-2015

Any questions regarding this release, contact:
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How to create an SD card for MCS-DUAL or MCS-SOLO

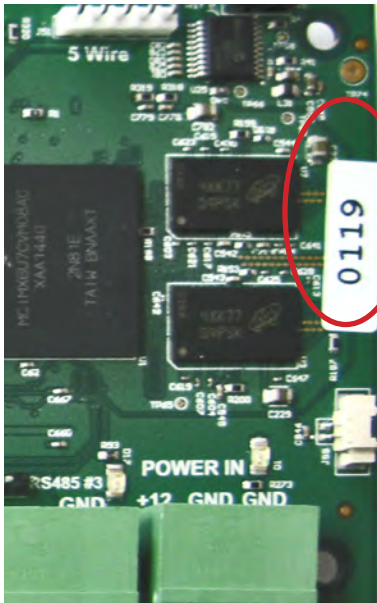
Tools you need before getting started

1. Micro SD Card 4gb or greater
2. Micro SD card reader
3. Location of Files from Micro Control Systems - see next page



NOTE: BE SURE TO COPY THE CORRECT FILES NEEDED TO UPDATE YOUR TOUCHSCREEN- SEE BELOW:

YOU WILL RECEIVE THIS INFORMATION FROM MCS ALONG WITH A 'USER NAME AND PASSWORD'



Boards with a serial number of 107 and up must use the:
MCS-DUAL-SD-CARD
Programmed Memory Card for MCS-NIT6DL

Boards with Serial number of 106 and down must use the:
MCS-SOLO-SD-CARD
Programmed Memory Card for MCS-NIT6X



MCS-COMPACT Card Reader



SD CARD - 4GB or greater

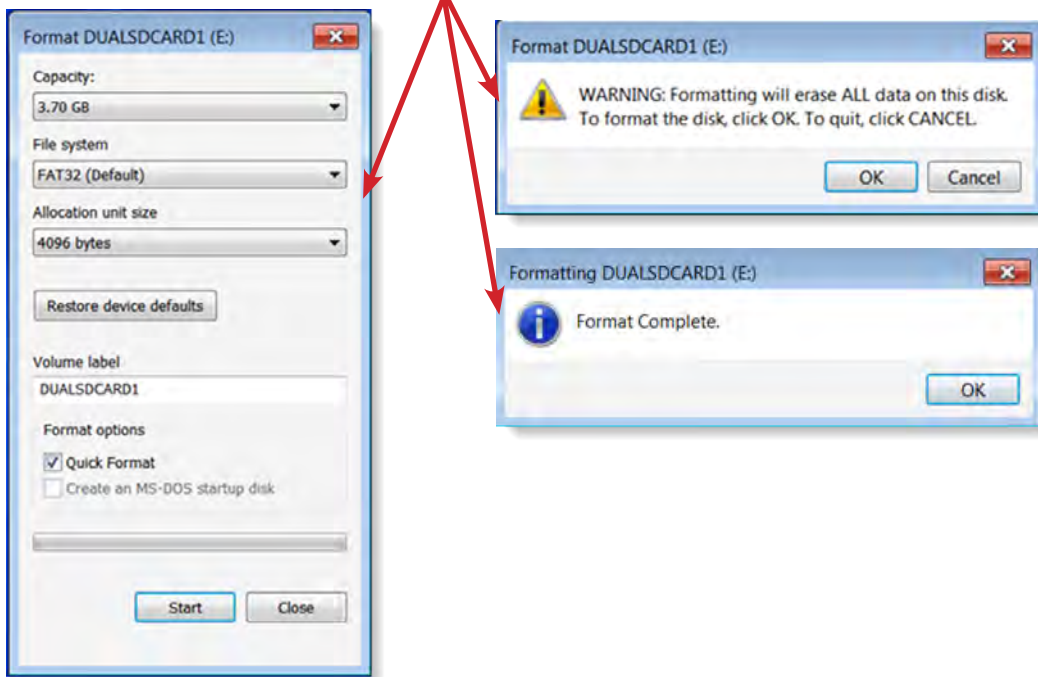
- 1.1. Plug card reader into your computer
- 1.2. Plug SD card into the card reader



1. Popup will appear-open folder to view file
2. Right click on 'SD CARD READER' (to reformat the Reader)
3. Click on 'FORMAT'

continue onto next page

4. Accept the default format for the SD Card



- 1.3. Open your Web Browser - type in your browser bar at top: ftp://68.68.196.122
 1. Enter user name Mcs-Touch and password McsTouch (must be entered correct)
 2. Locate the correct folder for your touchscreen either DUAL or SOLO
 3. Open 'Folder' to view contents



NOTE: BE SURE TO COPY THE CORRECT FILES NEEDED TO UPDATE YOUR TOUCHSCREEN

4. 'Highlight' all files (control A will highlight all files)
5. Right Click and click 'COPY'
6. On left side of 'Window Explorer's screen' - Click on your SD card you just formatted
7. Right click on the 'SD card'
8. Right click and 'PASTE' files you just copied
9. After files are copied to your SD card,
10. Right click the SD card and click 'EJECT' FROM YOUR COMPUTER

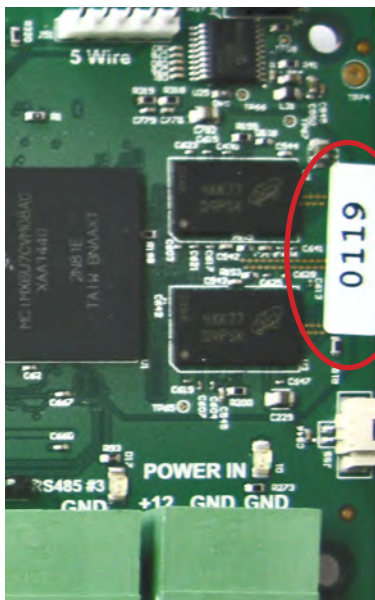
YOU ARE NOW READY TO MOVE TO THE NEXT STEP TO UPDATE YOUR TOUCHSCREEN TO THE NEW FIRMWARE

1.4. Important Instructions Prior to Updating your Touchscreen

1. You will need to copy your 'Graphic Files' which are located in the:
'MCS-Connect' sub folder 'GRAPHICS'.
2. Make sure you **only copy the files** located in the 'GRAPHICS' folder.
3. Copy the contents of 'AUTOSTART MCS-CONNECT'.
4. Write down the network information stored in the 'NETWORK CONNECTIONS'.
5. Make note of the correct SD card for your Touchscreen, as shown below.
6. Double check the serial number located on the back of the Touchscreen.

Gather tools to facilitate copying necessary files prior to upgrade.

- a. **USB DISK for copying files to.** (START WITH A CLEAN DISK, NO FILES)
- b. **USB Mouse to make copying easier.**
- c. **SD Flash Memory card supplied by MCS with new software or the SD Memory card you create.**



**Boards with a serial number of 107
and up must use the:**
MCS-DUAL-SD-CARD
Programmed Memory Card for MCS-NIT6DL

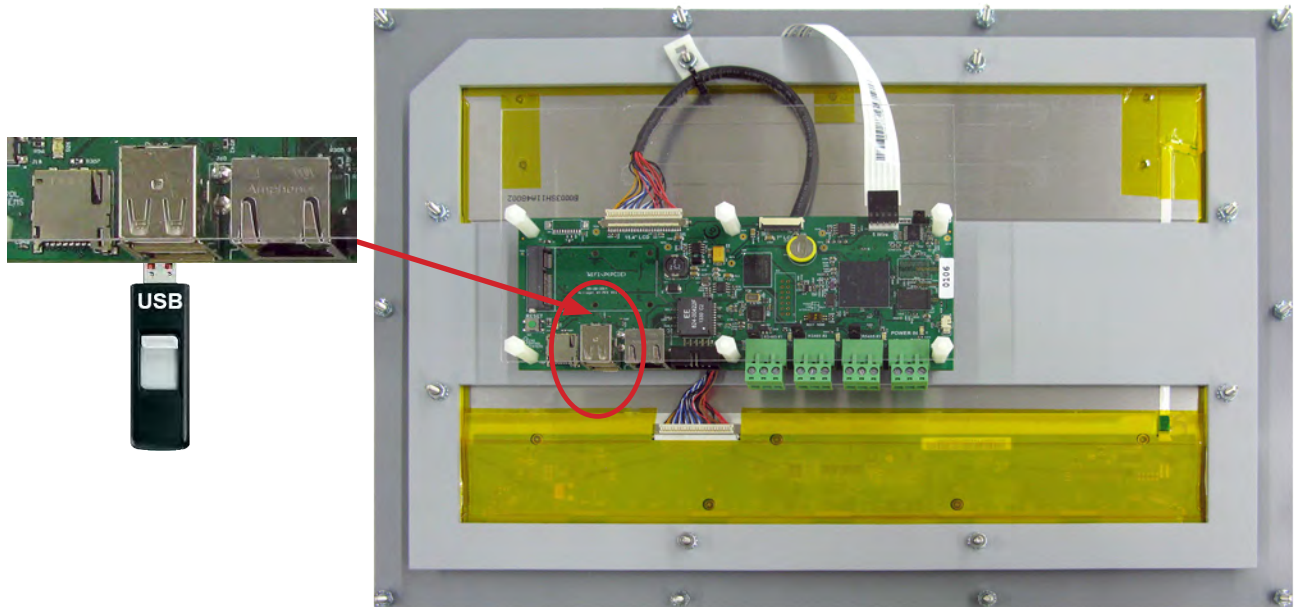
**Boards with Serial number of 106
and down must use the:**
MCS-SOLO-SD-CARD
Programmed Memory Card for MCS-NIT6X

1.5. SCREEN SHOWS OLD VERSION OF SOFTWARE



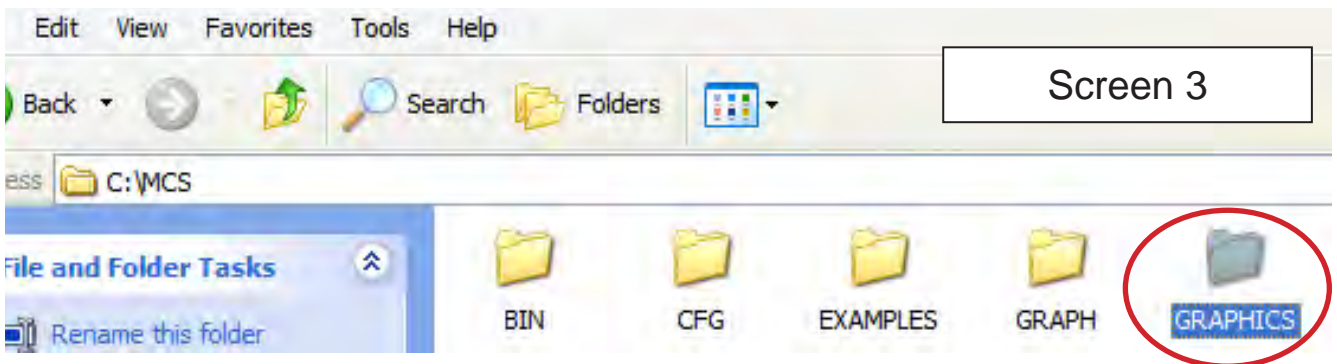
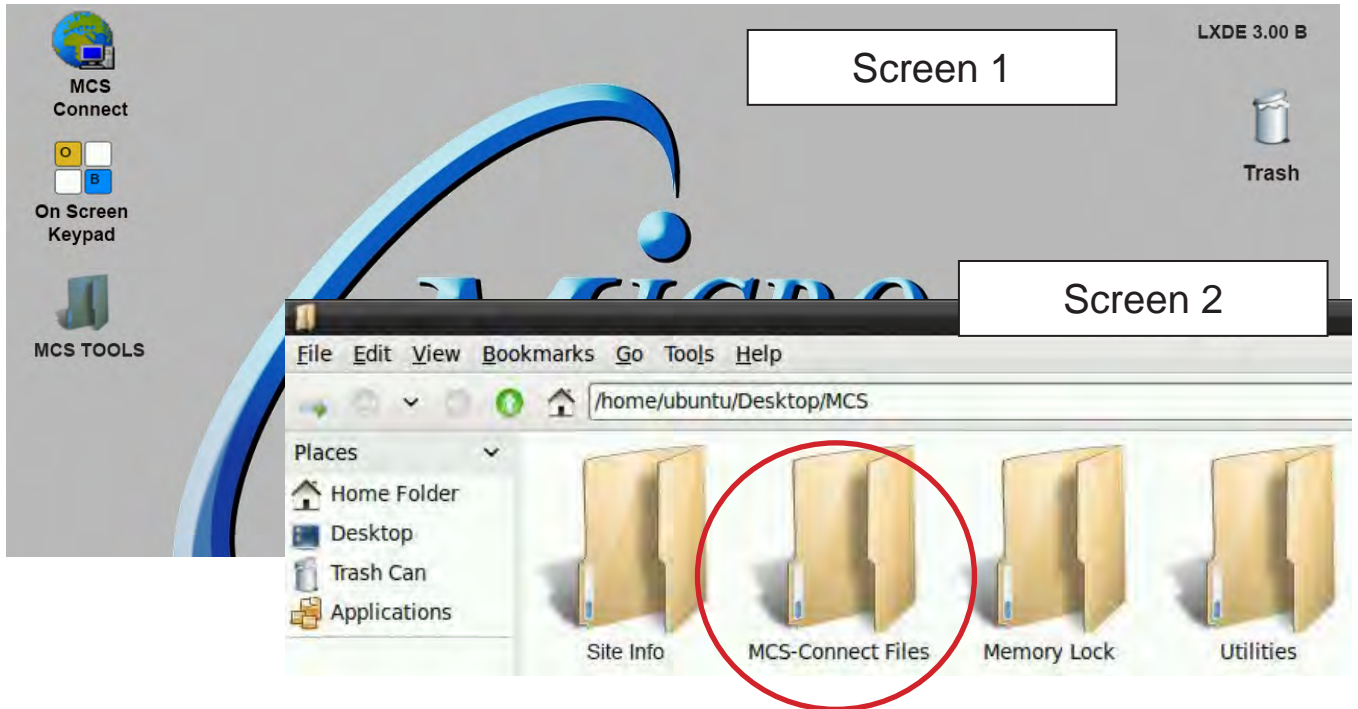
1.6. PLUG IN USB STICK AS SHOWN

On back of touchscreen, locate the USB PORT as shown on screen 1 and insert a USB stick to copy necessary files prior to installing new 9 point calibrating software. There are two USB ports, the USB Mouse will be using one.



1.7.  **SAVING SITE GRAPHICS FILES (IMPORTANT STEPS-SAVING FILES THAT WILL BE LOST IN FIRMWARE UPDATE)**

1. On the 'Desktop', double click on the folder labeled 'MCS'.
2. Double click the sub folder labeled 'MCS-Connect Files'



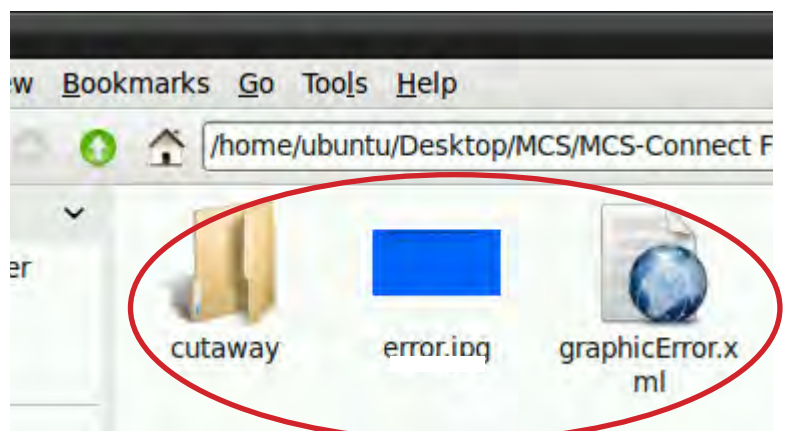
3. Double click the sub folder labeled 'Graphics'.



4. In the Graphics folder, copy all files and folders available.

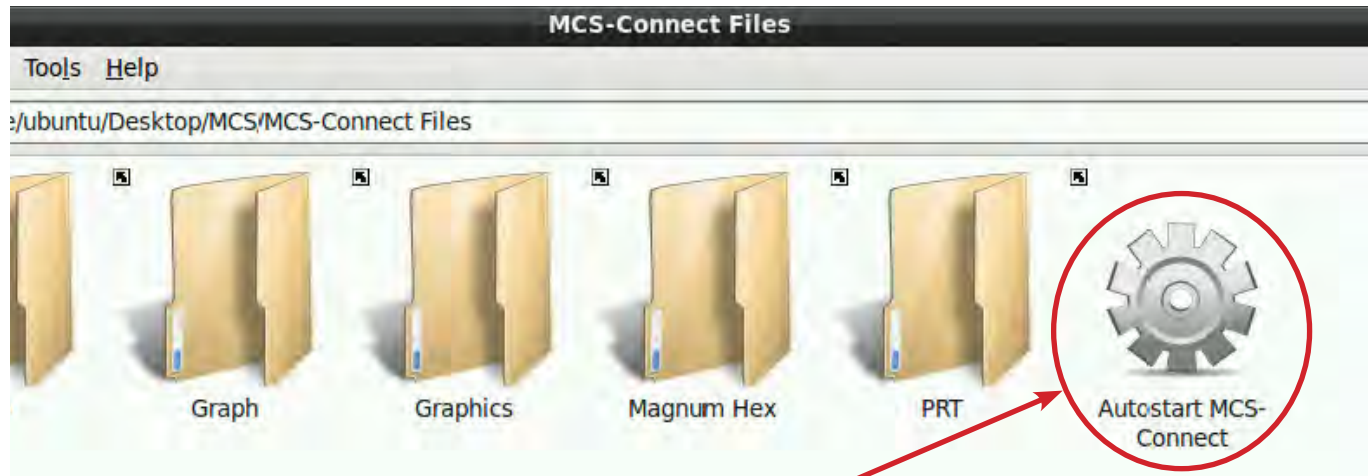
Do not copy the folder called **graphics**, copy the files inside the folder **ONLY**.

5. Paste all the graphics files onto the USB drive. (A shortcut will appear on the Desktop for the USB drive when it is inserted and it also will appear on the left side of the screen.)



1.8. SAVING Autostart MCS-Connect file

1. On the 'DESKTOP', double click on the folder labeled 'MCS'.
2. Double click the sub folder labeled 'MCS-Connect Files'



3. Right click the file called 'Autostart MCS-Connect'
4. Select 'Leafpad'.

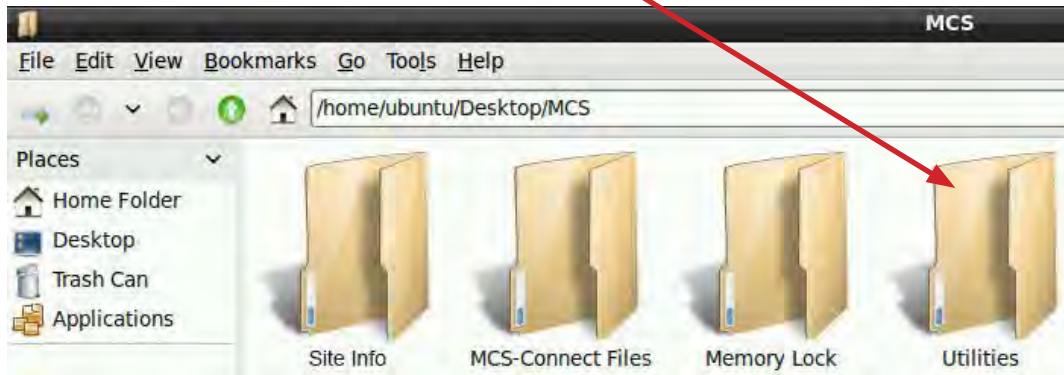
```
Autostart MCS-Connect.desktop
File Edit Search Options Help
[Desktop Entry]
Name=Autostart MCS-Connect
GenericName=Autostart MCS-Connect
Comment=Autostart MCS-Connect
Exec=/home/ubuntu/MCS-Connect/MCS-Connect.sh "ethernet|" "1" "25" "192.168.10.101" "graphics" "5001" "5020" "null"
Terminal=false
Type=Application
Icon=
```

5. Highlight and copy all text as shown in the screen above.
6. Go to the 'USB drive'
7. Right click and click **'New - Empty File - Name file 'AUTOSTART'**
8. Right click on 'AUTOSTART' file that you created - select Leafpad.
9. Right click **'Paste the text from step 5 into this file'**
10. **Save the text file 'AUTOSTART' on the USB DRIVE.**

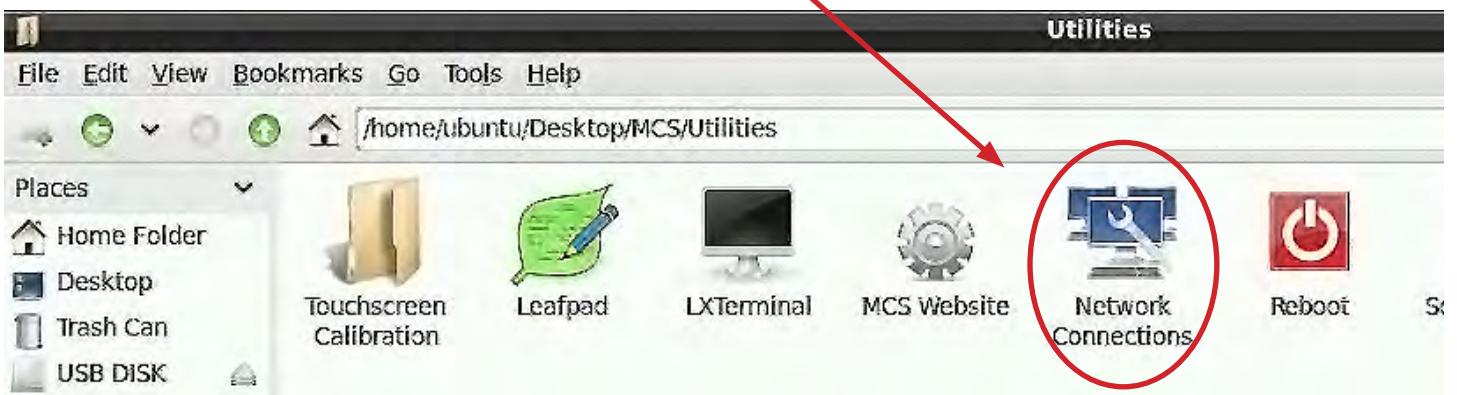
1.9. NETWORK ADDRESS

1.9.1 Utilities Folder

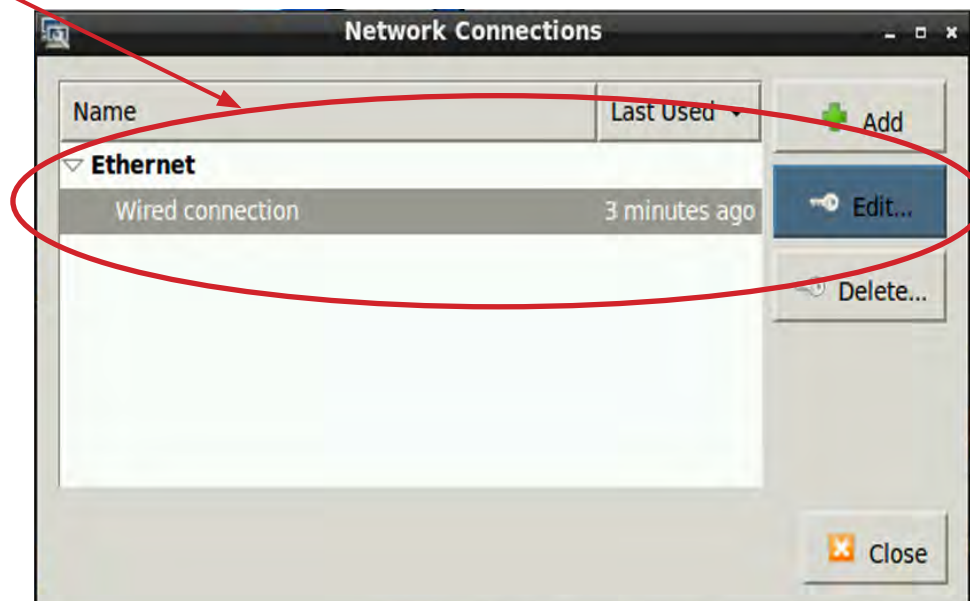
1. On the 'Desktop', double click on the folder labeled 'MCS'.
2. Double click the sub folder labeled 'Utilities'.



3. Double click on 'Network connections'.
4. A window labeled Network Connections will open.



5. Select 'CONNECTION' under Ethernet.
6. Click 'Edit'.



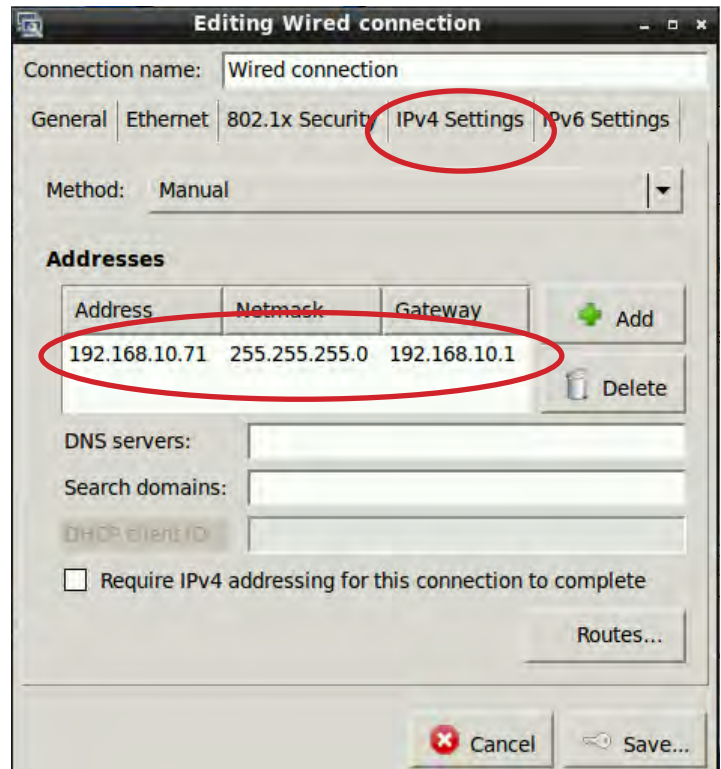
7. Click the IPV4 settings tab.
8. WRITE DOWN IP ADDRESS, NET MASK AND GATEWAY ADDRESSES.
KEEP THIS INFORMATION.



AFTER LOADING NEW FIRMWARE
TOUCHSCREEN WILL REBOOT.

AFTER REBOOT, THE SYSTEM WILL
DEFAULT TO FACTORY SETTINGS ON
NETWORK AND YOU WILL LOSE YOUR
OLD SETTING.

9. Remove the USB DISK from
the Touchscreen.





MAKE SURE YOU HAVE THE CORRECT SD CARD SUPPLIED FROM THE FACTORY.
IF YOU ARE MAKING YOUR OWN SD CARD MAKE SURE THE FILES ARE CORRECT THAT YOU ARE COPYING.

Boards with a serial number of 107 and up must use the:

MCS-DUAL-SD-CARD

Programmed Memory Card for MCS-NIT6DL

Boards with Serial number of 106 and down must use the:

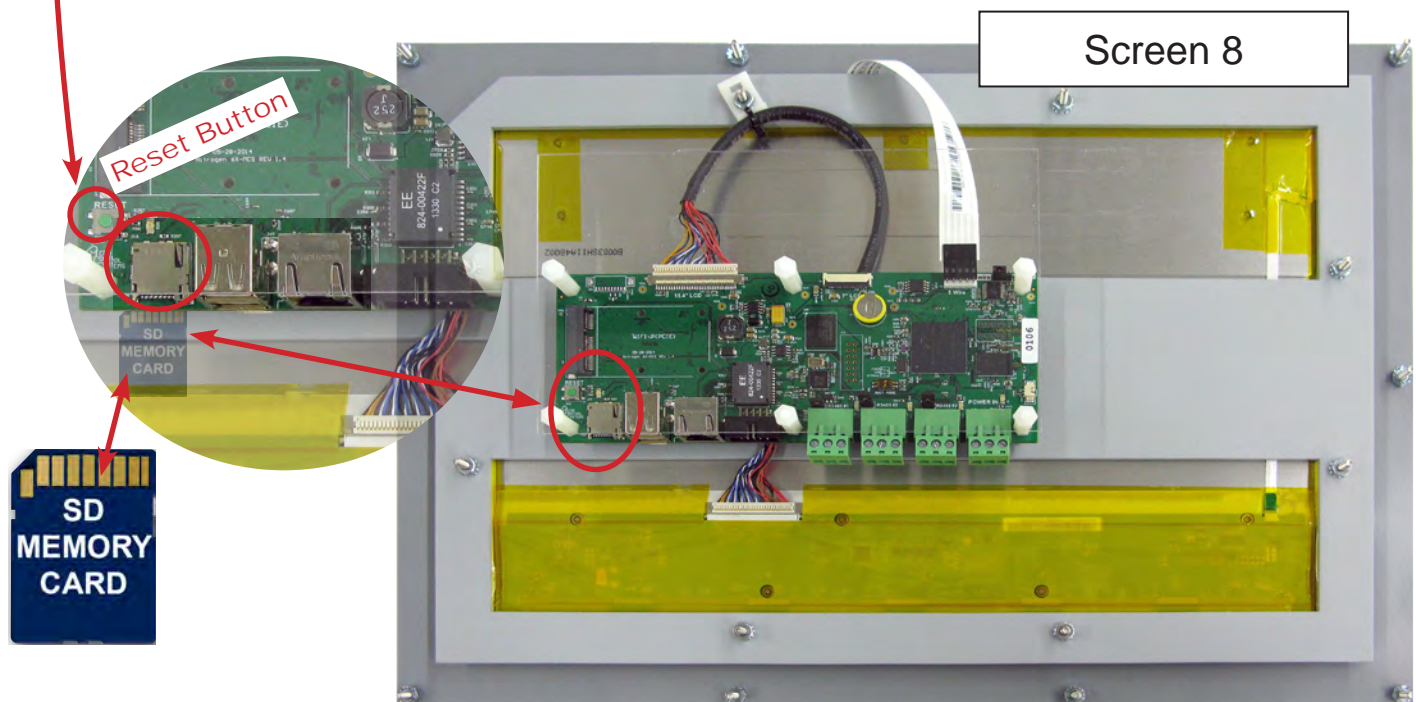
MCS-SOLO-SD-CARD

Programmed Memory Card for MCS-NIT6X

FIRMWARE UPGRADE

1.10. INSERT SD MEMORY CARD

1. Locate the 'SD slot for inserting the SD memory card' (See screen 8.)
2. Insert SD card supplied from MCS with new software.
3. Press 'Reset Button' as shown on the below screen to start the reboot for the touchscreen.
4. **Loading of new software will take about 15 TO 20 minutes to load.**
5. Once the Screen is finished loading new firmware, it will flash then go to a blank screen.
6. REMOVE THE SD CARD.
7. **Press the 'Reset Button' to reboot.**



ONCE TOUCHSCREEN HAS REBOOTED

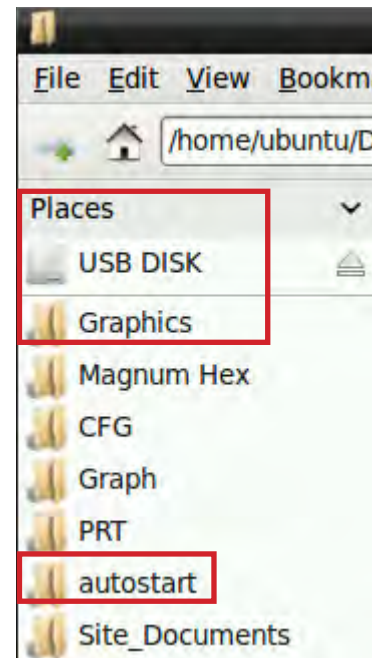
1.11. Unlocking Touchscreen

1. Double click the 'MCS TOOLS' Icon on the Desktop.
2. Double click 'Memory Lock' sub directory.
3. Double click 'Unlock Memory'.
4. Click 'EXECUTE'. The touchscreen will reboot.

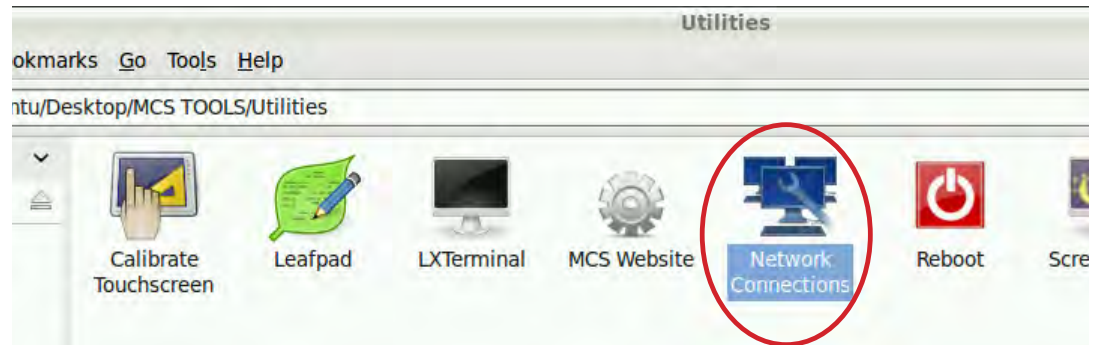


1.12. Replacing 'Graphic Files'

1. Plug in the 'USB DRIVE'
2. Open the directory for the USB (Icon appears on left side of screen with bookmarks).
3. **Copy the graphics files that you placed on the USB DRIVE** to the 'Graphics' folder located on the left side of the screen.
4. Open the text file that was created on the USB DRIVE 'AUTOSTART' with 'Leafpad'.
5. Copy all the text from the 'AUTOSTART' file from the USB DRIVE .
6. Open the folder 'autostart' on left side.
7. Right click on the icon 'Autostart MCS-CONNECT', open with 'Leafpad', highlight the contents of file and paste the copied text file.
8. SAVE THE FILE.



1.13. Editing the Network Information



1. Open the Desktop-->MCS TOOLS-->Utilities folder.
2. Double click on 'Network Connections'.
3. **After loading the new firmware, you will notice in the Network Connections that two or more Ethernet connections will appear. You will need to delete the connections EXCEPT FOR 'ETHERNET RJ45 PORT'**
4. Click on 'WIRED CONNECTION' and click edit, see screen 1 below.
5. Next screen, highlight the 'DEVICE MAC ADDRESS' and delete, see screen 2 below, **PRESS SAVE.**
6. Next screen, screen 1, highlight 'WIRED CONNECTION 1', click delete, close and save.

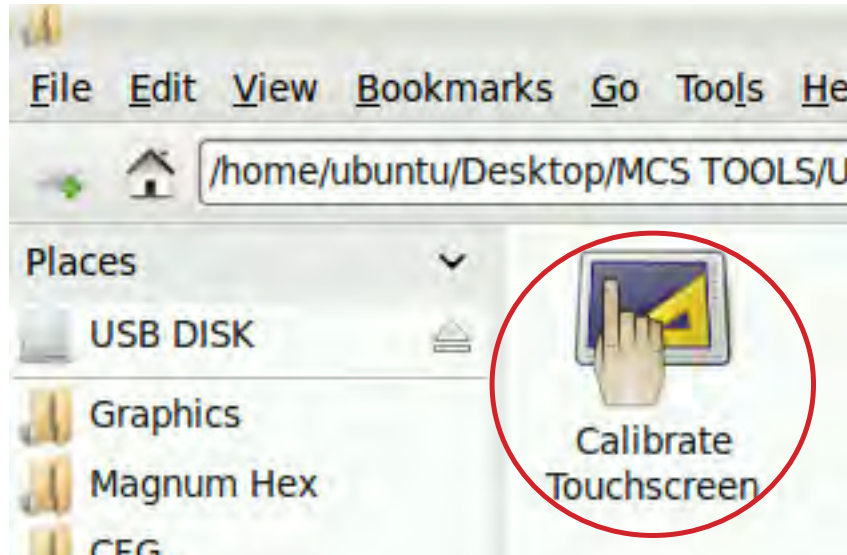


7. Next edit 'Ethernet Rj45 Port' to re-enter the correct IP ADDRESS, NETMASK ADDRESS and GATEWAY ADDRESS. SAVE THE INFORMATION.
8. Set Device Mac address- (will end with (eth)), as seen in screen 2, SAVE FILE.
9. Click on 'Reboot' in the 'UTILITIES FOLDER'.

The touchscreen has been updated and now needs to be calibrated.

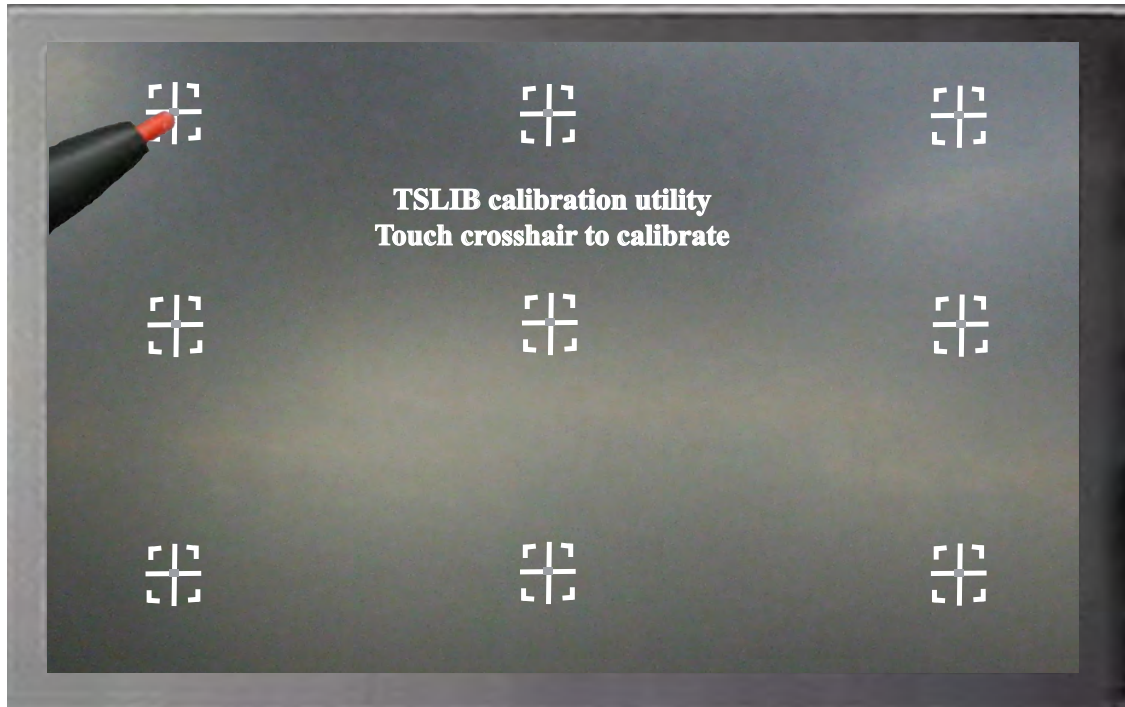
1.14. USING NEW CALIBRATING SOFTWARE

At the main menu:



1. Click on the 'MCS TOOLS' folder.
2. Click on the 'Utilities' folder'

3. Click on 'Calibrate Touchscreen'
4. **New Calibrate 9 point software will open, see next page.**



1.15. CALIBRATING WITH NEW 9 POINT SOFTWARE ON Touch 7 and 15.4

The screen below shows calibration for the touchscreens.

(only one target point will display at a time)

The first target point will display on the left top side of your screen.

5. Position your stylus pen point as close to the center of the target as you can.
BE CAREFUL NOT TO PRESS ON THE SCREEN IN OTHER AREAS.
6. After touching the left top target, the next target will appear in the top center and continue to display as per the screen below until all '9 target points' have been calibrated.

If satisfied with the calibration, go to the next step. If needed, rerun the calibration tool.

7. After you calibrated all 9 points on the screen you will be returned to the desktop.

1.16. LOCKING THE TOUCHSCREEN AFTER CALIBRATION

1. Click on 'MCS TOOLS FOLDER' to open
2. Click on 'Utilities' to open
3. Click on 'MEMORY LOCK', CLICK ON 'LOCK MEMORY', click on 'EXECUTE

When the Lock Memory file is pressed it does an automatic reboot and autostarts MCS-Connect

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