

5580 Enterprise Pkwy. Fort Myers, FL 33905

Office: 239-694-0089 Fax: 239-694-0031

www.mcscontrols.com

MCS-TOUCHSCREEN

& Graphics

Capacitive and Resistive Touchscreens



CAPACITIVE TOUCH using Finger, Stylus, or *Glove





RESISTIVE TOUCH using Stylus Pen

MCS Total Solution for all your Control Needs

This Manual will walk you through the process of setting up your Touchscreen, modifying and loading graphics for MCS-Connect.



The MCS Commitment is to provide practical solutions for the industries needs and to be both a leader and partner in the effective use of microprocessor controls.

Micro Control Systems, Inc. 5580 Enterprise Parkway Fort Myers, Florida 33905 PH:(239) 694-0089 FAX:(239) 694-0031 www.mcscontrols.com

All information contained within this document is considered to be proprietary information of Micro Control Systems, Inc. No information or data from this document shall be published, used, reproduced, transmitted, or disclosed to others outside your organization without the prior expressed written consent of Micro Control Systems, Inc. This document and the information contained herein shall be treated as proprietary. Reasonable provisions shall be provided to ensure that this information remains proprietary by your employees, agents, and other personnel that may have access to this document. Copyright ©2024.

Table of Contents

Getting to know your Touchscreen	5
Identifying your Touchscreen by Label	6
1.1. Location for Serial Number on back - RESISTIVE TOUCHSCREEN:	6
1.2. Location for Serial Number on back - CAPACITIVE TOUCHSCREEN	6
CAPACITIVE TOUCHSCREEN'S INTERFACE	7
1.3. MCS-TOUCH-15.4	/ ح
11 Decumente Specificate Drawings etc.	ت
	0
21 Layout of Main Screen on the Touchscreen	9
2.1. Layout of Main Screen on the Touchscreen	9 9
SECTION- 3 CAPACITIVE TOUCH KEYPAD	10
31 KEYPAD -	1 0
3.2. 'ON SCREEN KEYPAD'	
SECTION- 4. CAPACITIVE TOUCH UTILITIES	11
4.1. Utilities folder and its sub folders	
4.1.1 Advanced Network Configuration	
4.1.2 Calibrate Touchscreen(Resistive Screen Only)	11
4.1.3 Keyboard	
4.1.4 LX Terminal	
4.1.5 PDF Viewer	
4.1.6 Repool	
4.1.7 Set screen timeout	12
4.1.9 Text Editor	
4.1.10 TigerVNC Viewer	
4.1.11 Time and Date	
SECTION- 5. CAPACITIVE TOUCH NETWORK	
5.1. Setting Up Network For Communication With Your Controller	
5.2. Utilities Folder	15
5.2.1 Advanced Network Screen	
5.2.1.1. Selecting a Ethernet Port (screen 5)	
5.2.1.2. Setting a 'Static IP Adress'	17
SECTION- 6. Update MCS-CONNECT for Capacitive Touch	
SECTION- 7. MCS-Connect Communication	
SECTION- 8. Replacing Graphics for Capacitive Touch	
8.1. DELETE THE SUB FOLDER FOR YOUR GRAPHICS	23
8.1.1 NEXT STEP FOR INSTALLING THE NEW GRAPHICS FOLDER	23
RESISTIVE TOUCHSCREEN'S INTERFACE	
SECTION- 1. RESISTIVE TOUCHSCREEN'S INTERFACE	
SECTION- 2. RESISTIVE TOUCH SITE DOCUMENTS	29
2.1. Documents, Spec Sheets, Drawings, etc.	
SECTION- 3. RESISTIVE TOUCH MAIN SCREEN	30
3.1. Layout of Main Screen on the Touchscreen	
3.2. CÓMPANY GRAPHICS	

SECTION- 4. RESISTIVE TOUCH KEYPAD	
4.1. KEYPAD	
4.2. 'ON SCREEN KEYPAD'	
SECTION- 5. UNLOCKING THE RESISTIVE TOUCHSCREEN	
5.1. Unlocking the Touchscreen.	
SECTION- 6. RESISTIVE TOUCH UTILITIES	
6.1. Utilities folder and its sub folders	
6.1.1 Calibrate Touchscreen	
6.1.2 Leafpad	
6.1.3 LX Terminal	
6.1.4 MCS Website	34
6.1.5 Network Connections	34
6.1.6 Reboot	34
6.2. Setting Time and Date - MCS-TOUCHSCREEN	
SECTION- 7. RESISTIVE TOUCH NETWORK	
7.1. Setting Up Network For Communication With Your Controller	
7.2. Utilities Folder	
7.2.1 Network Connections Screen	
7.2.2 Adding IP Address	
SECTION- 8. MCS-CONNECT	
8.1. MCS-CONNECT Shortcut on Desktop	40
SECTION- 9. MCS-CONNECT COMMUNICATION	
SECTION- 10. UPDATE MCS-CONNECT FOR RESISTIVE TOUCH	
SECTION- 11. RESISTIVE TOUCH - Replacing Graphics	

Getting to know your Touchscreen

On the following pages we will acquaint you with the function and use of the MCS-TOUCHSCREEN, plus introduce you to the graphics that we have incorporated into the design.

OEMs with additional training and the Graphic Builder, will be able to make changes to the graphics and help manage all the information the MCS controller has available to provide.

MCS-TOUCH OVER THE YEARS

The MCS Touch evolved over the years since its introduction in 2008 with the MagTouch-8C. Later versions were introduced; MCS-TOUCH-PC, MCS-TOUCH PC10.2, MCS-TOUCH-PC15, MCS TOUCH-7, and the current:

New MCS-TOUCH-15.4 Capacitive Touchscreen and MCS-TOUCH-10.1 Resistive

1. The MCS-TOUCH-15.4 Capacitive touchscreen

- Same format as MCS-TOUCH-15.4 resistive touchscreen, drops in same cutout.
- New Linux operating system, supports cap touchscreen and resistive touch screens.
- Works outdoors, bright screen, water resistant.
- Exceptional Optics 1280x800 Resolution Sharp and vibrant images.

Identifying Resistive and Capacitive Touchscreen

The **Resistive Touch** can be identified by the main screen showing the Keypad and Linux version of software XXX or less. The Stylus shipped with the Resistive Touch is black. *The stylus must be used when pointing at the screen.*

The **Capacitive Touch** main screen shows layout for the keypad and the latest version of Linux is XXX or greater. The Capacitive Touch can be touched with a finger, stylus or a special glove to make adjustment. The Stylus shipped with the Resistive Touch is Blue.



Additional information on the setup and using your Touchscreen and Graphics can be found on our web site, along with additional App. notes concerning the Touchscreens.

http://www.mcscontrols.com/manuals.html

Identifying your Touchscreen by Label

1.1. Location for Serial Number on back - RESISTIVE TOUCHSCREEN:



1.2. Location for Serial Number on back - CAPACITIVE TOUCHSCREEN

Serial #'s 2976 & above



Click on the QR code or link below for information on touchscreen board serial numbers.

https://mcscontrols.com/software.html#mcsTouchSW



Click or scan with mobile for more information.

CAPACITIVE TOUCHSCREEN'S INTERFACE

Your touchscreen is shipped installed with the latest Linux operating system, MCS-Connect and additional files for displaying your graphics.





INCLUDED COMPONENTS

90W Single Output Power Supply for Touchscreen Resistant to short circuiting, overloading, and over voltage. Operating temperature up to 158F (70 °C)

MCS-TOUCH-15.4 1.3. **MOTHERBOARD - FRONT**



SECTION- 1. CAPACITIVE TOUCH SITE DOCUMENTS

1.1. Documents, Spec Sheets, Drawings, etc.

Stored in the Touchscreen's flash memory you will find pdf's and documents pertaining to the building of your unit. Each unit's configuration is different, so the 'SITE DOCUMENTS' file will pertain to that unit only.

An example of the contains of the 'SITE DOCUMENTS' folder may contain:

- 1. DRAWINGS (PDF'S) of the components used in this unit
- 2. EXAMPLE OF MANUALS (if installed in your unit)
- a. Getting Started Manual
- b. Keypad Manual
- c. Touchscreen Manual
- d. EXV Manual
- e. BMS-GATEWAY Startup Guide
- f. Additional manual may be stored here depending on the configuration of the unit

3. SPECIFICATION SHEETS

Each part installed should have a spec (data) sheet included in the 'SITE DOCUMENTS' folder

4. CONFIGURATION FILE - This is the key file in building your unit. If your config file is somehow corrupted, this is the original file used and may need to be re-installed. Call MCS-SUPPORT for help in re-installing this file to your controller.

To locate the 'SITE DOCUMENTS' folder:

- 1. Navigate to the 'MCS TOOLS folder' on your desktop
- 2. Double click on folder to open
- 3. Click on Site _Documents under Places on left.



SECTION- 2. CAPACITIVE TOUCH MAIN SCREEN

2.1. Layout of Main Screen on the Touchscreen

- 1. MCS Tools, icon
- 4. Touchscreen Software Version
- 2. On Screen Keypad icon
- 5. Time of Day (click to change)
- 3. MCS-Connect icon



2.2. COMPANY GRAPHICS

If your touchscreen came pre-installed with the 'Graphic Package', OEM's and trained Installers will be able to modify some of the displays after the initial installation using the Graphic Builder if they are authorized.

With its 1280x800 Resolution, the display is sharp and easy to read. Making use of the 'Stylus pen', and the on screen keypad adjustments are easy and lets the technician check readouts as to the status of the controller.

RUN/STOP OFF	WARNING	ALARM OFF	UNIT STATUS UNIT IS HOLDING COMP CONTROL STATI	VANE LO% 040 CMP HZ	VANE CLSD YES	CMICRO CONTROL SUSTEMS	
COMPRESSOR DATA CMP TL CYCL	VED DATA	ARING TMP		41.0%	MOTOR TM	CHILLER	
SAT SUC THE	1.24 SAT DISC THP	L20.0F (H0)				EVAP/COND OVERVIEW	
29.8 OIL FEED P	B1.8	127.0F (H)		DA	E		
OIL FEED THE	VED AMPS F	41.0%					
CMP I+LOC	K VED FAULT H	PSI SW			CND DSI	STATUS	4
OPEN VANE OIL PL	MP HEATER LOCK			.0* 040	(90.0P DISC TIMP	LOCKOUT	
		COMP EN INT			111 0 MD	aice	

The Touchscreen now comes with a new Linux operating system version MCS 1.02 Calibrating software is not needed for the capacitive touchscreens shipped after February 2024.

SECTION- 3. CAPACITIVE TOUCH KEYPAD

3.1. KEYPAD -

On the main screen, click on Keyboard Icon as shown in screen 1.



3.2. 'ON SCREEN KEYPAD'

Screen 2 shows keyboard display. Use the stylus and keypad to enter or make adjustments.



SECTION- 4. CAPACITIVE TOUCH UTILITIES

4.1. Utilities folder and its sub folders

- 1. Navigate to the 'MCS TOOLS folder' on your desktop.
- 2. Double click on folder to open.
- 3. Double click on the 'Utilities' sub folder to view contents.

MCS TOOLS		
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>B</u> ookmarks <u>G</u> o T	Too <u>l</u> s <u>H</u> elp	
🛶 😋 🔻 🔘 🚺 🛣 /home/m	ncs/Desktop/MCS TOOLS	
Places 🔹	Scroon 3]
🔏 Graphics		
🔏 Magnum Hex	Utilities	
📕 CFG		

4. Screen 3 below displays the difference utilities build into the system.

Brief descriptions of these files will be shown on the following pages in this manual.



4.1.1 Advanced Network Configuration

Clicking on this icon will direct you to a program which will allow you to setup your communications to the company's network and controllers.

4.1.2 Calibrate Touchscreen(Resistive Screen Only)

NOTE: Calibration is not necessary on the New Capacitive Touch.

In the new version of Linux software, MCS 1.02 software is provided to calibrate your **resistive touchscreen** to pin point the accuracy on the touchscreen. When you touch an area on the screen the stylus point aligns with the screen area. We will describe how to do this later in this manual under the **Resistive Touchscreen** *shipped prior to February, 2024*.

/home	/mcs/Desktop/M	CS TOOLS/Utiliti	es			
•					م ت م	ப
	Advanced Network Configuration	Calibrate Touchscreen	Keyboard	LXTerminal	PDF Viewer	Reboot
			3	Ś		
	Set screen timeout	Task Manager	Text editor	TigerVNC Viewer	Time and Date	

4.1.3 Keyboard

Clicking on this icon will open the on screen keyboard.

4.1.4 LX Terminal

LXTerminal is the LXDE version of a terminal emulator. It is used by programmers who are familiar with the Linux operating system.

4.1.5 **PDF** Viewer

Allows the tech to open a PDF viewer.

4.1.6 Reboot

Clicking on this icon will reboot your touchscreen.

4.1.7 Set screen timeout

Clicking on this icon allows the tech to set the amount of time that the screen will go into a screen timeout.

- 1. Click on 'Timeout Enabled' to set the time.
- 2. Click on 'Time Until Timeout' drop down arrow to show times available, choose time.
- 3. Click to 'APPLY'

/home	/mcs/Desktop/M	CS TOOLS/Util	ities	JUtilities	, Bookmarks Go Tools Help		- 0	×	
•			Ē	File Far Ten	- Tophurane To Loop Toph	0		×	
	Advanced Network	Calibrate Touchscreen	K	Ena	ble screen timeout	U	Screen Timeout Enable	ed	
	Configuration	_		Tim	e Until Timeout	2	15 minutes		
	Set screen timeout	Task Manager	Те		EXIT	•	1 minutes 1 minute 2 minutes 5 minutes 10 minutes		
			Itilities Edit View Bookmarks	<u>G</u> o Toojs <u>H</u> elp	_ = ¤X	X	15 minutes 20 minutes 30 minutes	V	
			Enable scree	en timeout	Screen Timeout Enabled				
			Time Until Ti	meout	15 minutes	1			
			E	KIT	3 APPLY]			

4.1.8 Task Manager

Clicking on this icon that lets you manage, search, filter and terminate processes if necessary.

4.1.9 Text Editor

Text Editor is a text editing program enabling you to make changes to text files.

4.1.10 TigerVNC Viewer

TigerVNC is a high-performance, platform-neutral implementation of VNC (Virtual Network Computing), a client/server application that allows users to launch and interact with graphical applications on remote machines.

4.1.11 Time and Date

Clicking on this icon allow the tech to setup the time and date.

1. Navigate to the 'MCS TOOLS' folder on your desktop.

Double click on folder to open.



2. Double click on the 'Utilities' sub folder to view contents.



- 3. Double Click 'Time And Date' to make changes
- 4. Next screen will allow you to change time and date.
- 5. Click to save your changes.

		MCS 1.0.2 Capacitive
Month April	Hour 18	
Day 28	Minute 22	
Year 20 23	Seconds 19	
Time Zone Africa/Abidjan	•	4
Save	Cancel	C1
N.T.D		
	Month April Day 28 Year 20 23 Time Zone Africa/Abidjan Save	Month April Hour 18 Day 28 Minute 22 Year 20 23 Seconds 19 Time Zone Africa/Abidjan Cancel Cancel

SECTION- 5. CAPACITIVE TOUCH NETWORK

5.1. Setting Up Network For Communication With Your Controller

At the touchscreen main screen, click on 'MCS TOOLS' folder' as seen screen 1.



5.2. Utilities Folder

Screen 2 appears, click on 'Utilities' to view contents of that folder, then click on **'Advanced Network'** as shown in screen 3.



5.2.1 Advanced Network Screen

Next display, screen 4 shows network communication screen. Your touchscreen will show **'Ethernet'**, click on the gear as shown below.

🔄 Network Connections	Screen 4	- O X
Name		Last Used 🔻
▼ Ethernet		
ethernet		never
Click to edit this connection		

5.2.1.1. Selecting a Ethernet Port (screen 5)

- 1. Go to the Ethernet tab.
- 2. Click the drop down arrow on the right side of "Device"
- 3. Select the MAC address that has (eth*) at the end. (The number at the end varies).

🔯 Editing et	hernet				-		- 🗆
Connection na	ame etherne	et			Screen 5		
General	Ethernet	802.1X Security	DCB	Proxy	IPv4 Settings	IPv6 Se	ettings
	Device	eth0 (00:19:B8:0D:2	F:23)				•
Cloned M	AC address						•
	MTU	automatic	I			- +	bytes

Continue to the next page

5.2.1.2. Setting a 'Static IP Adress'

On screen 7, click on 'IPV4 Settings'. Then to set a static IP address change the Method to 'Manual'. Create a new IP address by clicking under the 'Address' column. Enter the IP address (Address), Subnet Mask (Netmask), and Default Gateway (Gateway). Then click 'Save' to save these settings. The touchscreen will have to be rebooted for these settings to take effect.





Note:

Subnet Mask will change to it's CIDR form, e.g., 255.255.255.0 is the equivalent to 24 in CIDR notation.

SECTION-6. Update MCS-CONNECT for Capacitive Touch

NOTE: MAKE SURE YOU DOWNLOAD THE LATEST LINUX VERSION OF MCS-CONNECT FROM OUR WEBSITE AT:

http://www.mcscontrols.com/software.html

This will walk you through updating MCS-CONNECT on your Capacitive touch screen.

- 1. Format a new USB drive prior to installing this update, insert into your computer.
- 2. Go to the MCS-WEBSITE and down the latest MCS-CONNET for your touchscreen.



Please Note

Locate the Serial Number on your touchscreen board and follow the installation procedure for proper deployment.

- 3. Save the correct file to the attached USB drive on your computer.
- 4. Insert the USB drive into the back of the touchscreen.

On back of touchscreen, locate the USB PORT as shown on screen 2 and insert the USB drive with the new version of MCS-CONNECT.



The below screen will appear, click OK.

Installer to run: MCS-Connect 18 40 12 Yorto Installer ian	
The warter of that he connecting to the connecti	•
Graphics to copy: None	-
Open in File Explorer	ĸ

5. Click 'Next" to continue.



6. Click to accept terms of license agreement, click 'Next' to continue.



7. Select the installation path as shown.

Installation of I	MCS-Connect 18.40.12		- O X
MICRO CONTROL SYSTEMS			
	Select an installation path:		Erowse
	St <mark>ep 3 of 7</mark>		tt 2 Quit

8. Next screen, click 'Yes' to update the current version on the touchscreen.

Tinstallation of MCS-C	onnect 18.40.12	- 🗆 🗙
CMICRO CONTROL SYSTEMS		
💦 Warı	ning!	- DX
	It appears MCS-Connect is already installed here, would you like to update your current	version?

9. Click 'Next', to allow existing Config/Settings, click "Next'.

👬 Installation of MCS-Connect 18.40.12								
CMICRO CONTROL SYSTEMS	Existing Config/Settings							
	Personal Settings	Workspace Settings	Graph Data					
	Settings Found	Invalid File	Invalid File					
	Keep Existing	○ Keep Existing	○ Keep Existing					
	O Installation Defaults	Installation Defaults	Installation Defaults					
	Step 4 o <mark>f 7</mark>	Previou	s Next Quit					

10. Setup Shortcuts, click to check boxes for Start-Menu and shortcuts on the desktop, click next.

👬 Installation of MCS-Connect 18.40.12
CMICRO CONTROL SYSTEMS
Setup Shortcuts
 Create shortcuts in the Start-Menu Create additional shortcuts on the desktop
create shortcut for: (a) current user () all users
Select a Program Group for the Shortcuts: MCS Default
Step 5 of 7

11. Next screen shows progress bar.

💦 Installation of	MCS-Connect 18.40.12	- DX
MICRO CONTROL SYSTEMS		
	Pack installation progress: [Finished]	
	Overall installation progress: 6 / 6	
	Step 6 of 7	Quit

12. Last screen shows installation has completed successfully.

The installation placed an 'unstaller program in /opt/MCS-CONNECT/Uninstaller.



13. Double click on the USB drive on the desktop, opens in file manager.



14. Click on 'ARROW' to eject and remove from the back of the touchscreen.



SECTION-7. MCS-Connect Communication

- 1. At the 'Desktop screen' click on the 'MCS-CONNECT shortcut'.
- 2. Click on 'Setup' at the MCS-CONNECT' screen.



- 3. Next screen is the setup screen for communicating with your controller or PC.
- 4. You can change the "Com port' and 'Baud Rate" depending on how you are communicating with your controller or computer.



SECTION-8. Replacing Graphics for Capacitive Touch

1. Click on the 'MCS TOOLS' folder on the desktop.



8.1.1 NEXT STEP FOR INSTALLING THE NEW GRAPHICS FOLDER

Continue to next page.

- 1. Download the emailed file from OEM or MCS to your computer desktop.
- 2. Click on file to unzip (DO NOT COPY UNZIPPED FILE).
- 3. Click on folder which contains your graphic file.
- 4. Copy new graphics file to a formatted USB Stick.
- 5. Plug the USB Stick with the new graphics file into the back of the touchscreen.



- 6. USB disk opens, click on small arrow for 'Graphics to copy", click okay.
- 7. File that will be copied to the 'Graphics folder in the bookmarks.

	MCS USBTool	_ DX
	Installer to run:	None
	Graphics to copy:	/media/SCREENSAVER/Florida Mechanicla CVHF with Purge/trane/cvhf_purge_vfd 🤜
Op	en in File Explorer	OK

8. On bookmarks Places, click on Graphics, Your new graphic files will be in the subfolder of the Graphics folder. Example shows file that was placed in this folder 'TRANE'.



- 1. Download the emailed file from OEM or MCS to your computer desktop.
- 2. Click on file to unzip (DO NOT COPY UNZIPPED FILE).
- 3. Click on folder which contains your graphic file.
- 4. Copy new graphics file to a formatted USB Stick.
- 5. Plug the USB Stick with the new graphics file into the back of the touchscreen.



- 6. USB disk opens, click on small arrow for 'Graphics to copy", click okay.
- 7. File that will be copied to the 'Graphics folder in the bookmarks.

	MCS USBTool	_ DX
	Installer to run:	None
	Graphics to copy:	/media/SCREENSAVER/Florida Mechanicla CVHF with Purge/trane/cvhf_purge_vfd 🤜
Op	en in File Explorer	ОК

8. On bookmarks Places, click on Graphics, Your new graphic files will be in the subfolder of the Graphics folder. Example shows file that was placed in this folder 'TRANE'.



- 9. (Generic names can be used for different chillers (Trane, Carrier, etc.)
- 10. Double click on the subfolder "Trane" to see files needed for the replaced graphics.



TESTING THE GRAPHICS

ON MCS-CONNECT SCREEN

- 1. Click on 'OFFLINE' at top
- 2. Load your chilleroverview.xml file, Enable Auto Screen Refresh
- 3. Click to open your graphics folder in the graphics folder under places
- 4. Highlight 'chilleroverview.xml', and click open
- 5. When MCS-CONNECT opens, click on the 'chilleroverview.xlm tab to open your graphics
- 6. Once you verified the graphics have been loaded, close MCS-CONNECT and re-connect to the controller and click on the graphics tab at the top right.

RESISTIVE TOUCHSCREEN'S INTERFACE





SECTION- 1. RESISTIVE TOUCHSCREEN'S INTERFACE

Your touchscreen is shipped installed with the latest Linux operating system, MCS-Connect and additional files for displaying your graphics.



INCLUDED COMPONENTS

90W Single Output Power Supply for Touchscreen Resistant to short circuiting, overloading, and over voltage. Operating temperature up to 158F (70 °C)

Back of Display - 15.4"



SECTION- 2. RESISTIVE TOUCH SITE DOCUMENTS

2.1. Documents, Spec Sheets, Drawings, etc.

Stored in the Touchscreen's flash memory you will find pdf's and documents pertaining to the building of your unit. Each unit's configuration is different, so the 'SITE DOCUMENTS' file will pertain to that unit only.

An example of the contains of the 'SITE DOCUMENTS' folder may contain:

- 1. DRAWINGS (PDF'S) of the components used in this unit
- 2. EXAMPLE OF MANUALS (if installed in your unit)
- a. Getting Started Manual
- b. Keypad Manual
- c. Touchscreen Manual
- d. EXV Manual
- e. BMS-GATEWAY Startup Guide
- f. Additional manual may be stored here depending on the configuration of the unit

3. SPECIFICATION SHEETS

Each part installed should have a spec (data) sheet included in the 'SITE DOCUMENTS' folder

4. CONFIGURATION FILE - This is the key file in building your unit. If your config file is somehow corrupted, this is the original file used and may need to be re-installed. Call MCS-SUPPORT for help in re-installing this file to your controller.

To locate the 'SITE DOCUMENTS' folder:

- 1. Navigate to the 'MCS TOOLS folder' on your desktop
- 2. Double click on folder to open
- 3. Click on Site _Documents under Places on left.



SECTION- 3. RESISTIVE TOUCH MAIN SCREEN

3.1. Layout of Main Screen on the Touchscreen

1. MCS-Connect icon

2. On Screen Keypad icon

- 4. Touchscreen Software Version
- 5. Touchscreen LOCKED OR UNLOCKED
- 3. MCS Tools, icon 6. Time of Day



3.2. COMPANY GRAPHICS

If your touchscreen came pre-installed with the 'Graphic Package', OEM's and trained Installers will be able to modify some of the displays after the initial installation using the Graphic Builder if they are authorized.

With its 1280x800 Resolution, the display is sharp and easy to read. Making use of the 'Stylus pen', and the on screen keypad adjustments are easy and lets the technician check readouts as to the status of the controller.



The Touchscreen now comes with a Linux operating system.

The latest touchscreens, firmware version 3.0 +, comes with a 9 point calibrating software program for pin point accuracy.

SECTION- 4. RESISTIVE TOUCH KEYPAD

4.1. KEYPAD -

On the main screen, click on Keypad Icon as shown in screen 1.



4.2. 'ON SCREEN KEYPAD'

Screen 2 shows keypad display. Use the stylus and keypad to enter or make adjustments.



SECTION- 5. UNLOCKING THE RESISTIVE TOUCHSCREEN

5.1. Unlocking the Touchscreen.

1. Click on the 'MCS TOOLS' folder on the desktop, 'Memory Lock' sub folder will appear when this file is opened..



- 2. Double click on the 'Memory lock' folder
- 3. Double click on the 'Unlock_Memory'sh icon
- 4. Next screen, click on 'Execute'
- 5. Touchscreen will perform a restart



Re-Locking Touchscreen

- <u>E</u>
- 1. Double click the 'MCS TOOLS' Icon on the Desktop.
- 2. Double click 'Memory Lock' sub directory.
- 3. Double click 'Lock Memory'.
- 4. Click 'EXECUTE'. The touchscreen will reboot.





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

Check the top right corner of the desktop to make sure the touchscreen is locked.

SECTION- 6. RESISTIVE TOUCH UTILITIES

6.1. Utilities folder and its sub folders

- 1. Navigate to the 'MCS TOOLS folder' on your desktop.
- 2. Double click on folder to open.
- 3. Double click on the 'Utilities' sub folder to view contents.

-				
1			MCS	
<u>File Edit View Boo</u>	okmarks <u>G</u> o Too <u>l</u> s	<u>H</u> elp		
	/home/ubunt	u/		
Places 🗸				
Graphics Magnum Hex CFG Graph PRT autostart Site_Documents	Memory Lock	Utilities	Screen 3]

4. 4. Screen 3 below displays the difference utilities build into the system.

Brief descriptions of these files will be shown on the following pages in this manual.

A				Utilities				-
<u>File Edit View B</u> ookma	rks <u>G</u> o Too <u>l</u> s <u>H</u> elp)	-		1			
🛶 👚 [/home/ubuntu/De	esktop/MCS TOOLS/Uti	lities	Screen	4				
Places 🗸					-			
📃 USB DISK 🛛 🛆								
📕 Graphics				503				
縜 Magnum Hex					Annual Tree			
📕 CFG	Calibrate	Leafpad	LXTerminal	MCS Website	Network	Reboot	Time and Date	
📕 Graph	louchscreen				connections			

6.1.1 Calibrate Touchscreen

Your touchscreen comes with a software program which will allow you to calibrate your touchscreen stylus pen to pin point the accuracy. When you touch an area on the screen the stylus point aligns with the screen area. We will describe how to do this later in this manual.

6.1.2 Leafpad

Leafpad is a text editing program enabling you to make changes to text files.

6.1.3 LX Terminal

LXTerminal is the LXDE version of a terminal emulator. It is used by programmers who are familiar with the Linux operating system.

6.1.4 MCS Website

If you are connected to the internet where this touchscreen is installed, you will be directed to the MCS web site by clicking on this icon.

6.1.5 Network Connections

Clicking on this icon will direct you to a program which will allow you to setup your communications to the company's network and controllers.

6.1.6 Reboot

Clicking on this icon will reboot your touchscreen.

6.2. Setting Time and Date - MCS-TOUCHSCREEN

- 1. Navigate to the 'MCS TOOLS' folder on your desktop.
 - Double click on folder to open.



2. Double click on the 'Utilities' sub folder to view contents.



3. Double Click 'Time And Date' to make changes

4. Screen opens- click on 'Unlock'

You must be authorized to make these changes.

<u>6</u>	Ti	me and	Date	Settin	gs		- • ×
Time zone	Time zone: America/New_York						
Configura	tion:	Manual					-
Time:	11 -	+ :	13	- +	: 11	_	+ 🔇
Date:	.∎ Ma	arch 🕨				-	2016 🕨
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	28	29	1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	1	2
	3	4	5	6	7	8	9
_							
? не	elp			un	lock	X	Close



- 5. Using the keypad, enter password "mcs' (lower case)
- 6. Click 'Authenticate' to unlock

~		Authenticate	- • ×
0	You need configura	l to authenticate to modify the system ation	
	An application Authentication	on is attempting to perform an action that requires privileges. on is required to perform this action.	
	Password:	mcs	
▷ Details		Cancel Author	enticate

7. Make changes to date or time and click to **'Lock'**.

🐉 🛛 Time and Date Settings 💷 - 🛚 🛪							
Time zone: America/New_York							
Configura	tion:	Manual					-
Time:	11	-+:	57	- +	: 19	-	+ 0
Date:	• M	Iarch 🔸					• 2016 ▶
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
	28	29	1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
	27	28	29	30	31	1	2
	3	4	5	6	7	8	9
? не	elp		(1	ock	X	Close

SECTION-7. RESISTIVE TOUCH NETWORK

7.1. Setting Up Network For Communication With Your Controller

At the touchscreen main screen, click on 'MCS TOOLS' folder' as seen screen 1.



7.2. Utilities Folder

Screen 2 appears, click on 'Utilities" to view contents of folder. Click on **'Network Connections'** as shown in screen 3.



7.2.1 Network Connections Screen

Next display, screen 9-4 shows network communication screen. Your touchscreen will show **'Wired connection'**, click to add.



Screen 5, click to 'Edit' this connection.



Selecting a Device MAC address

- 1. Go to the Ethernet tab.
- 2. Click the drop down arrow on the right side of "Device MAC address:"
- 3. Select the MAC address that has (eth*) at the end. (The number at the end varies).

<u>م</u>	Edit	ing Ethernet connection 1	- • ×
Connectio	on name:	Ethemet connection 1	
General	Ethernet	802.1x Security IPv4 Settings IPv6 Set	ettings
Device Cloned MTU:	MAC addro	ess: 00:19:88:01:FB:F9 (eth0) ess: automatic - +	▼] bytes

7.2.2 Adding IP Address

On screen 6, set '**Method**' to '**Manual**' click on '**IPV4**' than click on '**Address**', enter the IP address, the netmask and gateway addresses. Click to save to touchscreen memory.



SECTION- 8. MCS-CONNECT

8.1. MCS-CONNECT Shortcut on Desktop

1. Click on the **MCS-Connect**.



- 2. This will launch the MCS-Connect main screen.
- 3. Click on Serial or Ethernet to scan for your controller.

6	MCS-Connect 17.04.05	- • ×
File Setup Offline Help		
Serial	Local Network Connections-	Ethernet
R R	emote Network Connections	;
New Site	Conr	nect Remotely
	○ Dialup ○ IP (Internet)	O IP Lantronix

4. Screen below shows available controllers on your network.

MCS-Connect 17.04.00 Be	eta							
File Setup Offline Reset/Clea	r Workspace	View Button Bar Ti	ime Help					
Disconnect Scan Graph Transmit Cfg Receive Cfg Diagnostic Save Print								
Site Info 84 - ZAMIL C	H #4 0 - Ma	aster Control 1 -	CivicOpera Ch1	1 - PAC480Q3-T3-	Z 0 - Soho-Da	y CPM 81 - FWC	410A 1 - WDT	TES
Address 192.168.10.101 (0)	HW Serial # 001205	Cfg Name Master Control	Company Name Napps	Unit Model # NAPPS CPM	Unit Serial # 123	Installed Date 02/19/2015	Cfg Vers. 17	

SECTION- 9. MCS-CONNECT COMMUNICATION

- 1. At the 'Desktop screen' click on the 'MCS-CONNECT shortcut'.
- 2. Click on 'Setup' at the MCS-CONNECT' screen.



- 3. Next screen is the setup screen for communicating with your controller or PC.
- 4. You can change the "Com port' and 'Baud Rate" depending on how you are communicating with your controller or computer.



SECTION- 10. UPDATE MCS-CONNECT FOR RESISTIVE TOUCH

NOTE: MAKE SURE YOU DOWNLOAD THE LATEST LINUX VERSION OF MCS-CONNECT FROM OUR WEBSITE AT:

http://www.mcscontrols.com/software.html

Download Latest MCS-CONNECT software



Call or email MCS for the password to download the latest **MCS-CONNECT LINUX VERSION** software.

Download to your laptop or computer's desktop or a location where you will be able to copy to a USB drive.

Start by Unlocking the Touchscreen.

1. Click on the **'MCS TOOLS'** folder on the desktop, **'MEMORY LOCK'** sub folder will appear when this file is opened.



- 2. Double click on the 'Memory lock' folder
- 3. Double click on the 'Unlock_Memory.sh' icon
- 4. Next screen, click on 'Execute'
- 5. Touchscreen will perform a restart



PLUG IN USB DRIVE AS SHOWN

On back of touchscreen, locate the USB PORT as shown on screen 2 and insert the USB drive with the new version of MCS-CONNECT.



Copy the Updated File

- 1. After plugging in the USB drive, the following screen will appear, click ok to open in File Manager.
- 2. When the drive opens, drag the 'MCS-CONNECT installation file' to the desktop.

Removable medium is inserte Removable medium is inser	creen 2]	
Type of medium: removable disk	Connect	File Edit View Bookmarks Go Tools Help	
Please select the action you want to perform: Open in File Manager 	Onscreen Keyboard MCS TOOLS	Places	
Cancel	USB DISK MCS- Connect_1	ALARMS DINGNOSTICS autostart DRAG THIS FILE TO YOUR DESKTOP AS SHOWN	

- 3. Close the screen so you can access the desktop.
- 4. Double click on the 'MCS-CONNECT installation file' you just dragged to your desktop to upgrade.

5. Click next to continue installing the new 'MCS-CONNECT installation

	Installation of MCS-Connect 17.11.04	Screen 3
CMICRO CONTROL SYSTEMS	Welcome to the MCS-Connect S	Setup Wizard
5		
	This will install MCS-Connect 17.11.04 on your computer	
	To continue with the installation, press next. To stop the ir	nstallation, press quit
	Step 1 of 7	▶ <u>N</u> ext Quit

6. Accept the terms for the 'license agreement', click next to continue.

.	Installation of MCS-Connect 17.11.04
$\langle \cdot \rangle$	Please read the following license agreement care Screen 4
MICRO	End-User License Agreement for MCS-Connect
SYSTEMS	This End-User License Agreement (EULA) is a legal agreement between either an individual or a single entity and the mentioned owner (Micro Control Systems) of this
	Software for the software product identified above, which includes computer software and
	may include associated media, printed materials, and "online" or electronic
	documentation ("MCS-Connect"). By installing, conving, or otherwise using MCS-Connect, you agree to be bounded by the
	terms of this EULA.
	If you do not agree to the terms of this EULA, do not install or use the SOFTWARE
	a) MCS-Connect is being distributed for commercial use with MCS products. It may be
	included with CD-ROM/DVD-ROM distributions. You are NOT allowed to make a charge for
	costs) whether as a stand-alone product, or as part of a compilation or anthology, nor to
	use it for supporting your business or customers. It may be distributed as long as no part
	of it is changed in any way.
	1. GRANT OF LICENSE. This EULA grants you the following rights: Installation and Use. You
	may install and use an unlimited number of copies of the MCS-Connect.
	Reproduction and Distribution. You may reproduce and distribute an unlimited number of
	I accept the terms of this license agreement.
	I do not accept the terms of this license agreement.
	Step 2 of 7 Previous Next

7. Select the 'Default Path' for the upgrade., click next to continue.

	Installation of MCS-Connect 17.11.04	_ = ×
CMICRO CONTROL SYSTEMS		Screen 5
	Select an installation path:	
	/home/ubuntu/MCS-Connect	<u>B</u> rowse
	Step 3 of 7	us 🖗 <u>N</u> ext 🔯 <u>Q</u> uit

8. Click on 'YES' to overwrite the existing file, click next to continue.

}	Installation of MCS-Connect 17	.11.04	_ = ×	
MICRO			Screen 6	
SYSTEMS				
*	Warning!			- • ×
It appears M	CS-Connect is already installed her	e, would you like	to update your current	version?
	<u>Y</u> es <u>I</u>	<u>1</u> 0		
S	tep 3 of 7	Previous	Next 😢 Quit	

9. Choose Keep Existing Config/Setting, click next to continue.

		Installation of M	4CS-Connect 17.11.04	- • ×
0	MICRO CONTROL SYSTEMS	Existing Cor	Screen 7	
Accept 'Ke	ep Existing	Personal Settings <mark>Settings Found</mark>	Workspace Settings Settings Found	Graph Data <mark>Settings Found</mark>
		Keep Existing	Keep Existing	Keep Existing
		○ Installation Defaults	O Installation Defaults	O Installation Defaults
		Step 4 o <mark>f 7</mark>		<u>▶ N</u> ext ② Quit

10. Make sure to **Un-check** the box to 'Create shortcuts in the Start-Menu',

*	Installation of MCS-Connect 17.11.04 _ 🛛 ×
CMICRO CONTROL SYSTEMS	
	Setup Shortcuts
Un-check	Create shortcuts in the Start-Menu
4 7	create shortcut for: © current user
Check this box if not checked	 all users Select a Program Group for the Shortcuts:
	MCS Default
	Step 5 of 7 Previous Next Out

Check box 'Create additional shortcuts on the desktop', click next to continue.

11. Next screen will show progress of installation.

. *	Installation of MCS-Connect 17.11.04	_ = ×
CMICRO CONTROL SYSTEMS		Screen 9
	Pack installation progress: /home/ubuntu/MCS-Connect/Java_MAG_Connect.jar MCS-Connect Main Linux	(Files
	Overall installation progress:	
	Step 6 of 7	ous Next Quit

12. Installation is complete, click next to continue.

*	Installation of MCS-Co	onnect 17.11.04	_ = ×
MICRO CONTROL SYSTEMS			Screen 10
	Pack installation progress:		
		[Finished]	
	Øverall installation progress:		
		5 / 5	
	Step 6 of 7	Previo	us Next Quit

13. Screen shows installation was successful, click 'DONE'.



14. Double click on the USB drive on the desktop, opens in file manager.



15. Click on 'ARROW' to eject and remove from the back of the touchscreen.



16. While on the desktop, touch stylus pen to **'MCS-CONNECT** install file', select move to trash. Next double click 'MCS TOOLS' on the desktop, opens in File Manager.



17. Click on the 'Go' button at the top and select trash can, Highlight the MCS CONNECT installer and select delete



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





SECTION- 11. RESISTIVE TOUCH - Replacing Graphics

INSERT A MEMORY STICK IN THE BACK OF THE TOUCHSCREEN

- 1. Screen will appear, highlight 'Open in File Manger' and click OK.
- 2. Make a backup of your Graphics file before proceeding with the new graphic install
- 3. Highlight your 'Graphics Folder' on left, click to open, than highlight the actual graphics folder on the right.
- 4. Click on 'EDIT" at top and click 'COPY"
- 5. HIGHLIGHT THE 'USB' MEMORY STICK on the left side under places
- 6. Click on 'EDIT' and click 'PASTE'
- 7. CHECK TO MAKE SURE YOU HAVE A BACKUP ON YOUR USB MEMORY STICK
- 8. Remove that USB memory stick
- 9. INSERT NEW USB memory stick with new graphics package

Unlocking the Touchscreen.

- 1. Click on the 'MCS TOOLS' folder on the desktop
- 2. Click on 'MEMORY LOCK'
- 3. Click on 'Unlock_Memory"
- 4. Click on 'Execute'
- 5. Touchscreen will re-boot
- 6. When Touchscreen re-boots- NOTE ON TOP RIGHT THAT SCREEN IS 'UNLOCKED'

Delete old Graphics Folder

- 1. On desktop, click on 'MCS TOOLS'
- 2. Under places, locate your 'GRAPHICS FOLDER', CLICK TO OPEN
- 3. Locate the folder for your touchscreen graphics and highlight



- 4. Click on **'EDIT'** move to trash
- 5. DO NOT DELETE 'ERROR.JPG, GRAPHICeRROR.XML files

Install 'New Graphics Folder'

- 1. Before saving the graphics to the USB MEMORY STICK BE SURE TO EXTRACT THEM FROM THE WINZIP FOLDER
- 2. Click on the USB memory stick
- 3. Highlight new 'Graphics folder' on the memory stick
- 4. Click on 'EDIT' at top
- 5. Click on 'COPY'
- 6. Highlight 'GRAPHICS' under places
- 7. Click on 'EDIT' at top
- 8. Click on 'PASTE'
- 9. Verify that the new Graphics file has been copied to your touchscreen Graphics folder

Re-lock Touchscreen

- 1. Click 'HOME' (House Icon) tab at top of screen to the left of your file path.
- 2. Click on **'MEMORY LOCK'** folder
- 3. Click on 'Lock_Memory'.
- 4. Click on 'EXECUTE'
- 5. When touchscreen reboots, verify the touchscreen is 'LOCKED' AT TOP RIGHT OF SCREEN

ON MCS-CONNECT SCREEN

- 1. Click on **'OFFLINE'** at top.
- 2. Load an Offline XML file, Enable Auto Screen Refresh.
- 3. Click to open your graphics folder in the graphics folder under 'Places'.
- 4. The files located in the 'Graphics folder' was labeled for your chiller in the root directory.
- 5. Navigate to the sub directory which will show the files in the root directory, then click on 'systemoverview.xml.
- 6. When MCS-CONNECT opens, click on the 'systemoverview.xml tab, in the 'Site Info at top'.
- 7. Once you verified the graphics have been loaded, close MCS-CONNECT and re-connect to the controller and click on the graphics tab at the top right.

CONTACT SUPPORT FOR ADDITIONAL INFORMATION OR VIEW THE FOLLOWING MANUAL ON OUR WEBSITE:

https://mcscontrols.com/Documents/MCS/Manuals/MCS-Touchscreen%20and%20Graphics%20Manual.pdf

Email: support@mcscontrols.com Phone: 239-694-0089

APPLICATION NOTES FOR MAKING ADJUSTMENTS TO THE TOUCHSCREEN AND UPGRADING FIRMWARE OR SOFTWARE



On MCS website, click arrow in 'Show All' for all information on the Toucscreen, etx.

Date	Author	Description of Changes
08-18-15	DEW	Setup Manual
09-02-15	DEW	Add images, edit pages
09-18/22/30-15	DEW	Add pages, edit pages
03-07-16	DEW	Add description and password for time and date change
06-01-16	DEW	Make changes for Ver 3.00F
12-01-16	DEW	Add Appendix#123
02-01-17	DEW	Modify replacing graphic file as per Danny B
10-02-19	DEW	Re-do sections adding appendixes (APPS)
07-12-2021	DEW	Remove App127 update balance
02-14-2024	DEW	Redo manual using new art for Capacitive Touch
05-24-2024	DEW	Add final screens and setup on Cap - Resistive changes
07-09-2024	DEW	Make edits from Jonathan
07-31-2024	DEW	Edit how to idenify the touchscreen with lable
09-17-2024	DEW	Added new Touchscreen backs
10-28-2024	DEW	Update installing Graphics on Cap Touch

Revision/Disclaimer Page

NOTES

NOTES



Providing HVAC/R Control Solutions Worldwide

5580 Enterprise Pkwy. Fort Myers, FL 33905 Office: (239) 694-0089 Fax: (239) 694-0031 www.mcscontrols.com