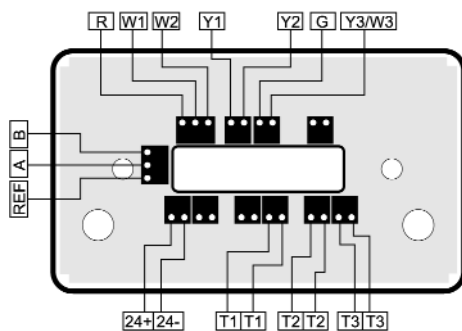# Support Resources

TCS Basys Controls®

EZ Installation and Commissioning Guide

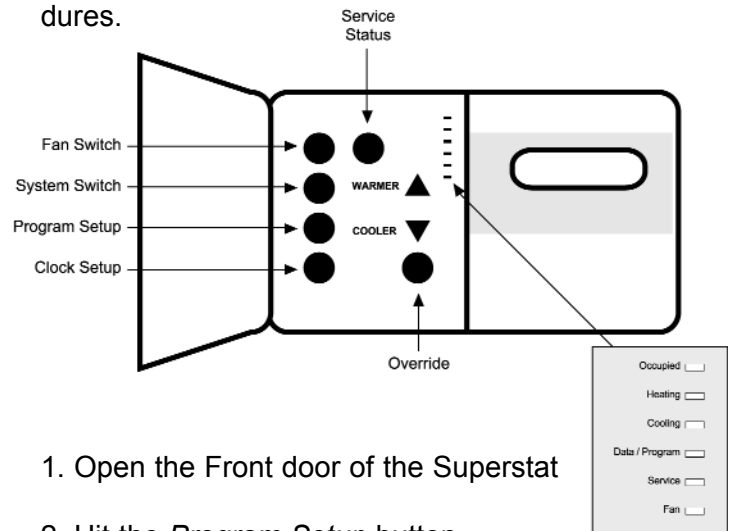## Stand-alone Superstat

Installing the Superstat

1. Mount the Superstat to the wall

2. Remove the front cover plate (Be sure to remove the side screws with a phillips head screwdriver). Wire in the appropriate heating, cooling and fan wires for the appropriate number of stages on the unit. (Refer to the diagram above for appropriate attachment locations) Attach sensor wires to the appropriate terminal blocks.

Attachment Locations for Sensors
- Remote Room Sensor - T1 terminals
- Discharge Air Sensor - T2 terminals
- Outdoor Air Sensor - T3 terminals

3. Wire up the power (+24 and -24). Refer to the diagram above for appropriate attachment locations.

4. Replace the front cover plate.

Addressing and Commissioning the Superstat

Superstats will come with default settings. If custom program parameters are desired, follow these procedures.
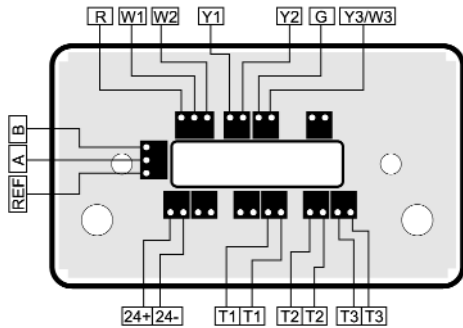

1. Open the Front door of the Superstat

2. Hit the *Program Setup* button.

If prompted for an access code enter in **248** by using the up and down arrows. Then hit the Program Setup again.

3. To continue through programming screens, select desired parameters and hit the Program Setup button to go to the next screen.

As part of the commissioning process, cycle all of the Roof Top Units to ensure they are all working correctly.
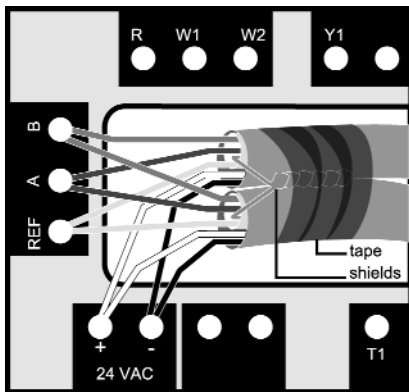
Networked Superstat

Installing the Superstat

1. Mount the Superstat to the wall

2. Remove the front cover plate (Be sure to remove the side screws with a phillips head screwdriver). Wire in the appropriate heating, cooling and fan wires for the appropriate number of stages on the unit. (Refer to the diagram above for appropriate attachment locations) Attach sensor wires to the appropriate terminal blocks.

  Attachment Locations for Sensors
  • Remote Room Sensor - T1 terminals
  • Discharge Air Sensor - T2 terminals
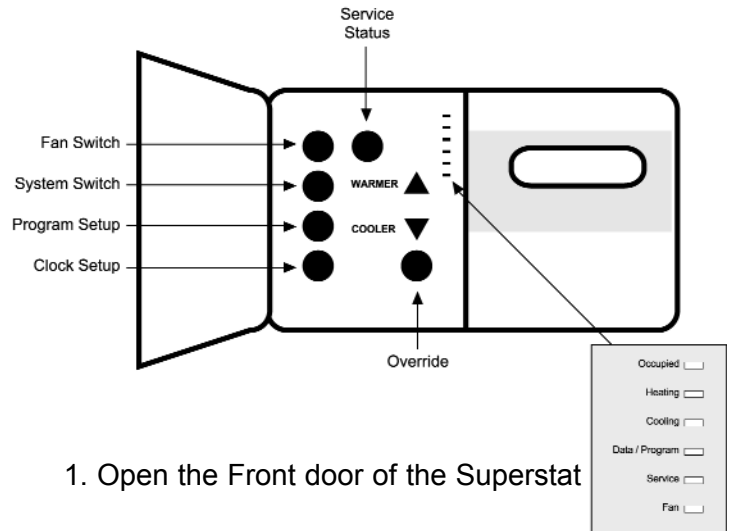 • Outdoor Air Sensor - T3 terminals

3. Wire up the power (+24 and -24) and communications (A, B and Reference). Refer to the diagram above for appropriate attachment locations. (Be sure to not cross the communication wires or the Superstat will not function correctly)

4. Twist the shields together and tape them off.

5. Replace the front cover plate.

Addressing and Commissioning the Superstat

Superstats will come preprogrammed with the appropriate settings. In order to have it successfully communicate on the network and over the internet you will only need to program the network address.

1. Open the Front door of the Superstat

2. Hit the *Program Setup* button.

If prompted for an access code enter in **248** by using the up and down arrows. Then hit the Program Setup again.

3. You will see *Set Address*. Arrow up or down to enter in a unique number for the address. (Excluding address *248*) When you have selected the address hit the *Program Setup* again.

Each address must be unique on the controller network. Typically the best way to address is to utilize already numbered schemes, ie. RTU#1 would be address 1.

After you addressed all the controllers (and have networked the gateway (Refer to the **QD2020ie Installation** instructions) call TCS (800.288.9383) to ensure the network is communicating correctly.

As part of the commissioning process, cycle all of the Roof Top Units to ensure they are all working correctly. This can be done remotely, but will require that you are onsite to verify the equipment is turning on and off as it should.

QD2020i(ie) Site Communication Center

Required Materials
• A D9-F to D9-Fcable (Serial Type Cable) wired straight through. This cable is included with each QD2020i and QD2020ie Communications Gateway.

• Hyperterminal installed on your computer. Hyperterminal is included with each Windows installation disk, although it may not be installed by default on your computer.
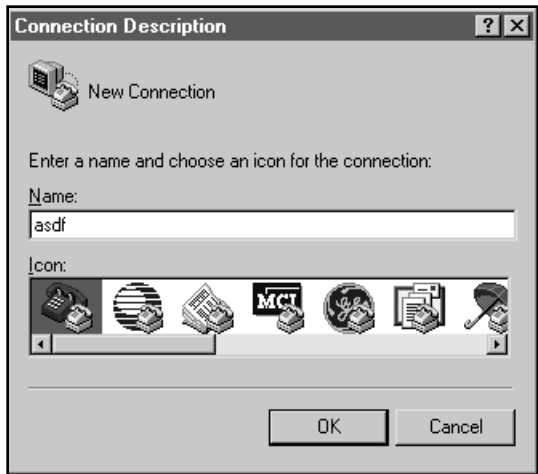
Locally programming network settings with the QD2020i(e)
The QD2020i(ie) is powered with 24VAC; We include a wall plugin supply 120VAC to 24VAC for power. Remove the QD2020i(ie) power connector terminal and attach the one end of the power supply. Then plug the power supply into a wall outlet.

1. Connect one end of the included serial cable to the connector labeled RS232 COM PORT on the QD2020i(e). Connect the other end of the cable into serial port located on the back of the computer. (You may have to remove a PDA connection or other connection to do this). For laptops that do not have a serial port, you may need to purchase a USB to serial port device.

2. Run Hyperterminal. Hyperterminal can typically be found in the start menu under *Programs > Accessories > Communications*. If it is not installed you will need to get the Windows installation disk to install.
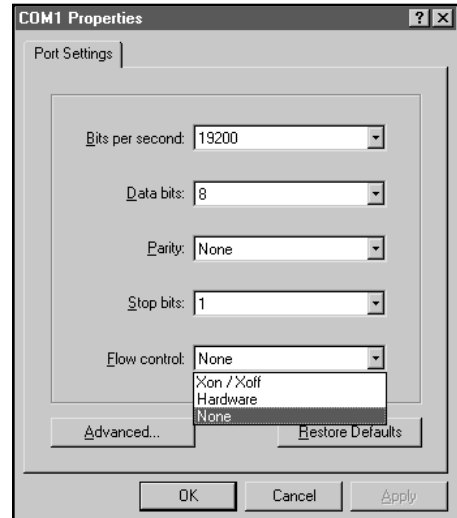
3. In *connection description* type in whatever you want to use to designate the name of the connection. Then hit *OK*

4. In *Connect To* window under the *Connect using* select **Direct to Com1** (Or whichever port you are connected to). Hit *OK*

5. In the *Com1 Properties* window fill in the properties as illustrated below. Hit *OK*
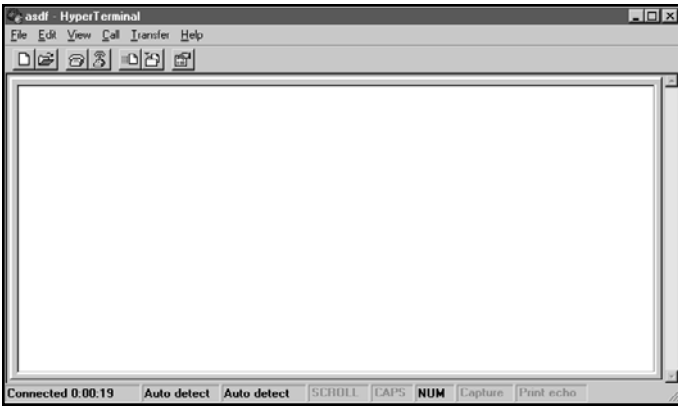
6. You are now configured to communicate with the QD2020i(ie). To begin type in the blank window:

$setup??
Then hit enter

Note - when you are typing *$setup??* in Hyperterminal, you will see nothing until the menu appears. If you type it in, hit enter and still see nothing, hit enter (<CR>) a couple of times and try again.

A - DNS ADDRESS 1: 0.0.0.0
B - DNS ADDRESS 2: 0.0.0.0
N - ISP PHONE #1:   5555551
F - ISP PHONE #2:
L - ISP LOGIN: ispusername
*P - PASSWORD: **********
S - SMTP SERVER: mail.isp.net
R - RETURN EMAIL: ispusername@isp.net
3 - POP3 SERVER: mail.isp.net
E - POP3 MAILBOX: ispusername
*W - POP3 PASSWORD: **********
U - UBQ URL: 216.165.178.150

Enter letter of item to change (x to Exit) -- _

Make changes to the setting by hitting the letter designated in the list. Then enter in the pertinent network programming information. When you are complete hit enter.

Note - **If unknown SMTP server, enter 216.165.165.174 Ubiquity URL, 216.165.178.150**

The QD2020i(e) requires a return email address to work, If unknown use QD2020@tcsbasys.com

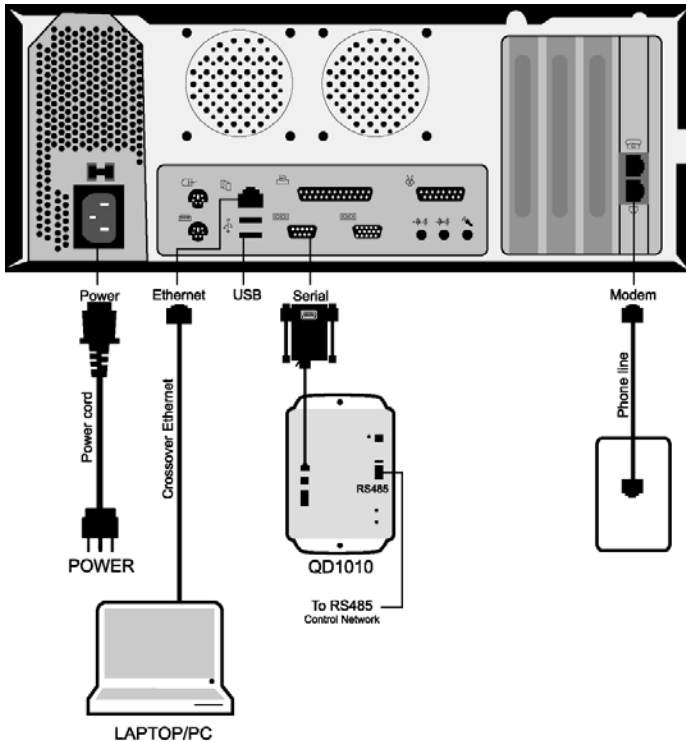8. Once you have completed the changes hit *x* then enter to quit.

9. The QD2020i(ie) will confirm that the updates have been committed with the following screen prompts:

Updating Internet Parameters

All Internet Parameters have been updated.

Other Notes - In *File > Properties > Settings > ASCII Setup*, you can turn on the echo. <Windows 95 release 2.> The included Hyperterminal with Windows 95 release 2 is the only terminal p where the echo worked consistently. Other versions of Hyperterminal may not echo.

7. A menu system will appear. That looks something like this for the QD2020ie -

Internet Parameter Update

HARDWARE ID: 001D016E
MAC ADDRESS: 000394060081
PART NUMBER: CO561AD- L
FIRMWARE VERSION: IL701B06 24.12.2001
BOOTBLOCK VERSION: 0702
ACTIVE IP: 172.31.39.199

A - DNS ADDRESS 1: 172.31.249.253
B - DNS ADDRESS 2: 0.0.0.0
D - DEFAULT IP: 172.31.39.100
M - SUBNET MASK: 255.255.255.0
G - GATEWAY IP: 172.31.39.254
S - SMTP SERVER: 172.31.10.18
R - RETURN EMAIL: qd2020ie@tcsbasys.com
3 - POP3 SERVER:
E - POP3 MAILBOX:
W - POP3 PASSWORD:
U - UBQ URL: 216.165.178.150

Enter letter of item to change (x to Exit) - x
For the QD2020i the menu looks like this -
Internet Parameter Update

HARDWARE ID: 1A00025D
PART NUMBER: CO561AD- S
FIRMWARE VERSION: IS701B19 25.4.2002
BOOTBLOCK VERSION: 0703
ACTIVE IP: 0.0.0.0

QD2040 Embedded Site Communication Center

COMMISSIONING THE QD2040 NETWORK

1. After the controllers have been networked together and are properly addressed, plug the controller network (RS485 network) into the QD1010, attaching the cables to the RS485 terminal block.
2. Use the included serial cable (RS232) to attach the QD1010 RS232 input and the serial connection on the QD2040.
3. Use the included AC adapter to plug the QD1010 into an electrical outlet.
4. Use the included AC power cord to plug the QD2040 into an electrical outlet.

At this point the QD2040 will automatically start up (If the QD2040 does not power up automatically, simply press the power button on the front of the unit). Once the internal application has cycled through (approx. 2-3 minutes), it will begin polling the network. You can tell if this is happening correctly by looking at the RS232 LED on the QD1010. *If it blinks occasionally in rapid succession it is working correctly.*

In the event you are installing more than 64 controllers, you may need to configure more ports. For more information on that refer to the QD2040 instructions.

CONFIGURING THE QD2040 COMMUNICATION SETTINGS

WARNING! THE QD2040 COMES FROM THE FACTORY WITH DHCP NETWORKING *ENABLED!* DO NOT HOOK THIS INTO A COMPUTER NETWORK, IF YOU ARE UNSURE IF IT HAS DHCP ENABLED!

1. Plug your laptop or PC with the enclosed ethernet *crossover* cable into the QD2040.

NOTE: DESPITE ITS APPEARANCE THIS IS A UNIQUE CABLE DESIGNED ESPECIALLY FOR DIRECT CONNECTIONS BETWEEN TWO COMPUTERS, OTHER ETHERNET CABLES WILL NOT WORK.

If your laptop or computer does not have an ethernet connection you will need to purchase a 10/100 Ethernet card at a computer store.

2. Restart your laptop.
3. On your laptop open up an internet browser (TCS recommends Internet Explorer 4.0 or later).
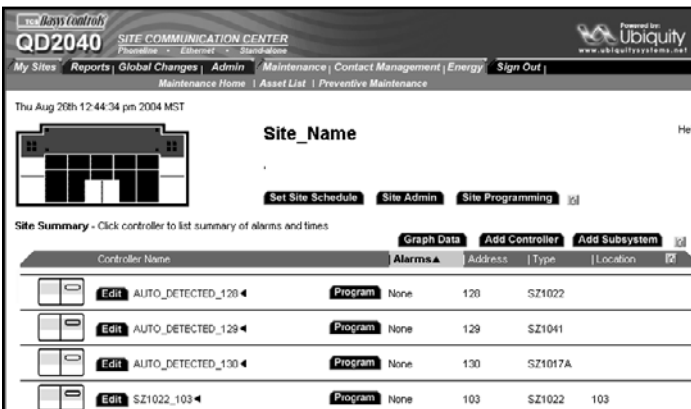4. In the address bar of the browser type in the following: http://192.168.1.1

If nothing appears, it probably means that your computer that you are using is not configured for DHCP.
· To properly configure it, right click the "My Network Places" on your desktop and choose "Properties".
· In Network Components under the configuration tab, highlight the TCP / IP that has the name of your ethernet card next to it. Click the "Properties" button.
· Under the IP Address tab click the "Obtain an IP address automatically" radio button. Then click "OK"
· Click "OK" again and restart your computer. After you are done you should be ready for DHCP.

5. Click "OK" to accept the SSL certificate. In the login page use:
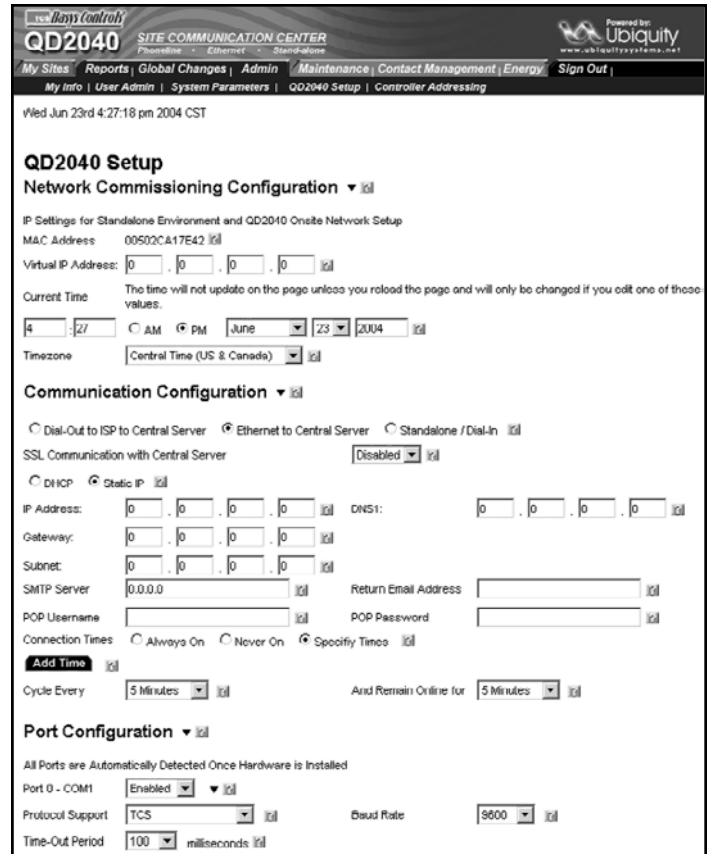
username - admin
password - password

6. You will come to the main site page. If your controllers are addressed correctly, you should see your controllers on the main table in the page.

7. Go to the top of the page and point to "Admin" with the cursor, in the links that appear underneath choose "QD2040 Admin"

On this page you configure how the QD2040 will communicate. Your options are either:

· **Stand-alone / Dial-In** - The QD2040 acts independently of a central server. To access it you either use your laptop and crossover cable or dial into it directly. In this mode, the QD2040 can also be accessed over a computer network.
· **Dial-up ISP to Central Server** - The QD2040 is configured to dial out to an ISP, and then communicate with the central Ubiquity server.
· **Ethernet to Central Server** - The QD2040 is configured to go out to the internet through a corporate network and communicate with the central Ubiquity Server.

8. On this page uncheck the "Setup DHCP Server" checkbox if you are planning on using the QD2040 on a computer network or to communicate with a central server. Once you are done with initial setup it is recommended regardless of configuration that you turn off this option.

9. Go down to "Communication Configuration" and select your preferred method of communications.

10. Once that is selected the appropriate boxes will appear for the required information for properly configuring it.

11. Enter in the appropriate communications information for the unit to communicate with Ubiquity or an internal network. (If you need additional help click on the Question Mark next to each box)

12. Click the Submit button

Once you have saved the changes, it will take up to 10 minutes for the communications configuration to change.

If you are using it with the central server, you will need to go to *http://www.ubiquitysystems.net* to see your site information, it will not appear directly within the QD2040 anymore.

For information on using Ubiquity go to *http://www.ubiquitysystems.net* and download the manual.

TCS Basys Controls®

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