Section 1.6
Connecting to the Network System

Install the Uponor Configuration Tool (UCT) (A9090000) software on a laptop or desktop personal computer (PC). The PC can connect directly to the Network System or through an internal network, commonly called a local area network (LAN). The LAN connection can be wired or wireless.

This section includes the following topics:

· Cable types for connecting a PC to the Network System
· Network System connection methods
· UCT logon process

Patch and Crossover Cables

In most cases, Network System connections are made with a patch cable such as the one shown in **Figure 1.6-1**. However, when connecting a PC

directly to the Router Main Control (RTR) (A9011000), use a crossover cable; see **Figure 1.6-2**. The main difference between patch and crossover cables is the pinouts. A patch cable has T568B pinouts on both ends, while a crossover cable has a T568B pinout on one end and a T568A pinout on the other.

Computers manufactured in 2009 and later can automatically configure themselves to use a patch cable when directly connected to each other without using a hub. However, if the PC is not communicating with the Network System or the yellow light-emitting diode (LED) on the PC Ethernet port is not flashing, it may be necessary to make a crossover cable. If the tools are not readily available to make this type of cable, install a hub (e.g., Linksys®, D-Link® or NetGear®) and use patch cables, which are readily available at any computer store.

T568B Wiring

Pin	Pair	Wire	S1.6-1b Color	
1	2	1		white/orange
2	2	2		orange
3	3	1		white/green
4	1	2		blue
5	1	1		white/blue
6	3	2		green
7	4	1		white/brown
8	4	2		brown

Figure 1.6-1: Patch Cable Connection

T568B Wiring

Pin	Pair	Wire	S1.6-1b Color	
1	2	1		white/orange
2	2	2		orange
3	3	1		white/orange
4	1	2		blue
5	1	1		white/blue
6	3	2		green
7	4	1		white/brown
8	4	2		brown

T568B Wiring

Pin	Pair	Wire	S1.6-1b Color	
1	2	1		white/orange
2	2	2		orange
3	3	1		white/green
4	1	2		blue
5	1	1		white/blue
6	3	2		green
7	4	1		white/brown
8	4	2		brown

Figure 1.6-2: Crossover Cable Connection

T568A Wiring

Pin	Pair	Wire	S1.6-1a Color	
1	3	1		white/green
2	3	2		green
3	2	1		white/orange
4	1	2		blue
5	1	1		white/blue
6	2	2		orange
7	4	1		white/brown
8	4	2		brown

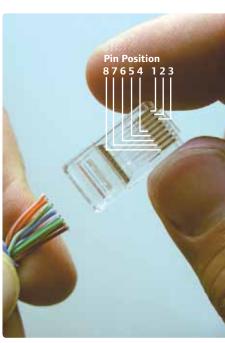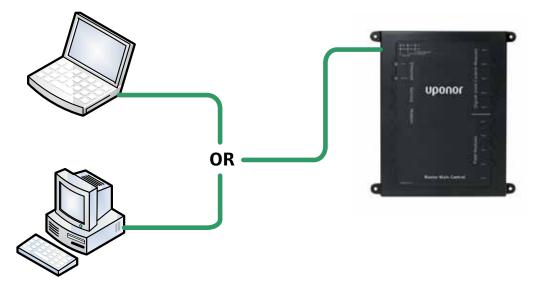Pin Position
8 7 6 5 4   1 2 3

Figure 1.6-3: RJ45 Pin Connector Designation

Note: A crossover cable will support only one device (PC or laptop) connected to the RTR.

Figure 1.6-4: Direct Connection to RTR

Figures 1.6-4 through 1.6-6 show the different ways to connect a PC to the Network System for setup and commissioning. Blue lines indicate patch cables, and green lines indicate crossover cables.

Connection Methods

An installer can choose among several methods for connecting a PC to the Network system:

- Wired connection — direct
- Wired connection — through a LAN network hub
- Wireless connection

Direct-wired Connection

A wired connection directly from a PC to the RTR, shown in **Figure 1.6-4**, is the most common and easiest way to connect a computer to the Network System. This configuration requires a single Ethernet cable. One end plugs into the Link connection on the RTR (which is the port below the power connection on the upper left side). The other end of the cable plugs into the Ethernet port on the PC. The Ethernet port has two LEDs — one green and one yellow. If the RTR and PC are connected properly, the green LED will be steadily lit and the yellow LED will flash intermittently.

Make a direct connection from a PC to the RTR with a crossover cable, shown in **Figure 1.6-2**. Never use splitters or Y-Connectors to connect more than one PC to a system. If it is necessary to connect more than one PC to the Network System, refer to **Figures 1.6-5** and **1.6-6**.

Wired Connection Using a Network Hub

If a LAN network hub is available, the PC and RTR can connect using patch cables, as shown in **Figure 1.6-5**. Using this option allows multiple PCs to connect to the Network System.

Note: If several users are working simultaneously to setup the system, take special care to coordinate efforts.
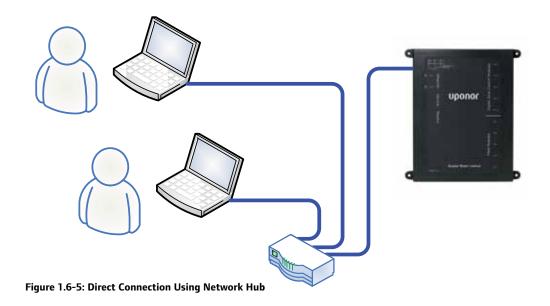
Wireless Connection Using a Wireless Network Hub

Another alternative for connecting a PC to the Network System is a wireless network hub, as shown in **Figure 1.6-6**. The PC(s) must have a wireless adapter for this option. The connection from the wireless hub to the RTR is a patch cable.

A wireless network is the most flexible and convenient way to connect a PC to the Network System during the construction phase. With a wireless connection, the installer is not limited to working in the mechanical room. However, a LAN is often one of the last services to be installed in a building or home. Uponor recommends investing in a wireless hub for a temporary connection during setup and configuration. This way, you can take the hub from job to job — it's just another type of tool to make the job easier.

Note: Take care to connect to the correct wireless network. Due to the growing popularity of wireless, several nearby connections may be available.

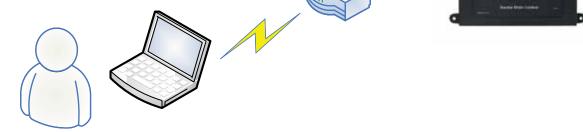**Figure 1.6-5: Direct Connection Using Network Hub**

Figure 1.6-6: Direct Connection Using Wireless Network Hub

UCT Logon Process

With a PC connection to the Network System, logon to the UCT and begin system set up. Depending on the connection method (described earlier in this section), the steps for logging in vary slightly.

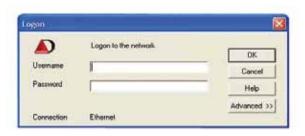1. Open the UCT software by double clicking on the ORCAview 3.33 icon on the PC desktop. The Logon dialog box, shown in **Figure 1.6-7**, will appear.

Figure 1.6-7: Logon Screen

2. Enter the username and password. (This step assumes a user has previously completed the initial logon. If not, refer to **Section 1.5: Installing the UCT Software**.)
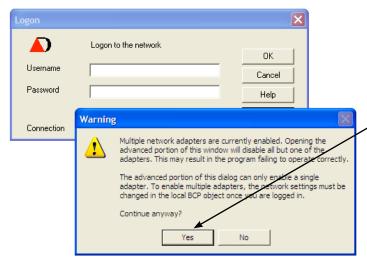
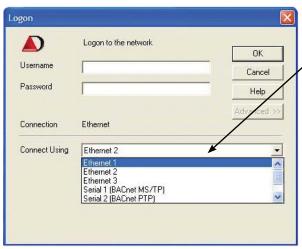**Figure 1.6-8: Multiple Network Adapter Warning**

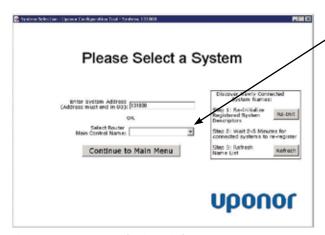**Figure 1.6-9: Selecting the Connection Adapter**

Figure 1.6-10: System Selection Window

3. Click on the Advanced button.

> **Note:** If a warning box, shown in **Figure 1.6-8**, displays, select Yes to continue. This notification warns that the system detects multiple types of PC-to-Network System connections and only one type of connection can be used at a time.

4. From the Connect Using drop-down menu, select the Ethernet port on the workstation that is currently connected to the Network System.

    a. Typically the wired adapter is Ethernet 1. When selected, adapters will display under the Connect Using box, shown in **Figure 1.6-9**. Verify the correct adapter is selected. If the description includes "wireless", the wrong Ethernet adapter was selected.

    b. If connecting using a wireless connection, select the Ethernet adapter, which is typically Ethernet 2. Again, look at the Connect Using box to verify the correct adapter was selected.

5. Click the **OK** button.

> **Note:** The system will retain the selected connection from logon to logon. It is only necessary to use the **Advanced** button to change to a different connection method. If wanting to use the same connection method from the previous session, only do steps one and two to logon to the UCT.

Connecting to the Hardware

If the username and password are accepted during the logon process, the System Selection screen will appear; see **Figure 1.6-10**. Because the UCT can only connect to one RTR at a time, be sure to select the system to which UCT will connect.

Follow these steps to select the RTR:

1. See **Figure 1.6-11**. Select the appropriate RTR from the Select Router Main Control Name drop-down menu. If the RTR for the current installation is not listed, click the Re-Initialize button on the right side of the screen, wait two to five minutes and then click the Refresh button.

2. Confirm selection of the correct control by reviewing the System Address field. The value in this field should be the address of the RTR and end in 00. If the system address does not end in 00, the RTR was not selected; repeat steps one and two to select the RTR.

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3. Click Continue to the Main Menu for the Main Menu, shown in **Figure 1.6-12**, to appear.

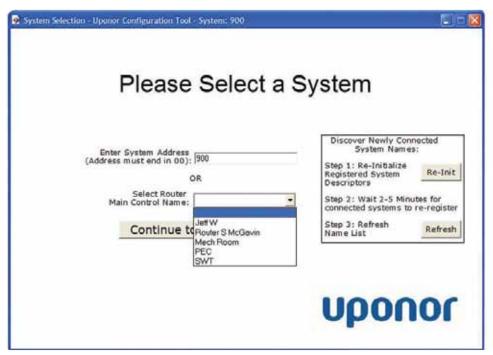From the Main Menu, proceed to setup and commissioning.
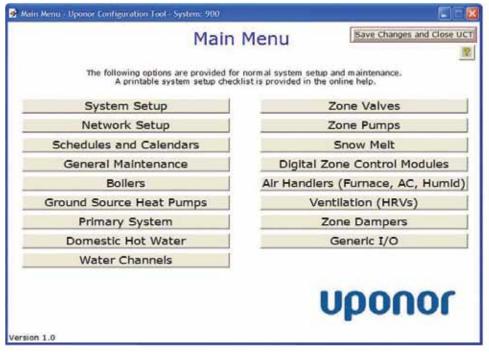

Figure 1.6-11: Select Router

Figure 1.6-12: Main Menu Screen