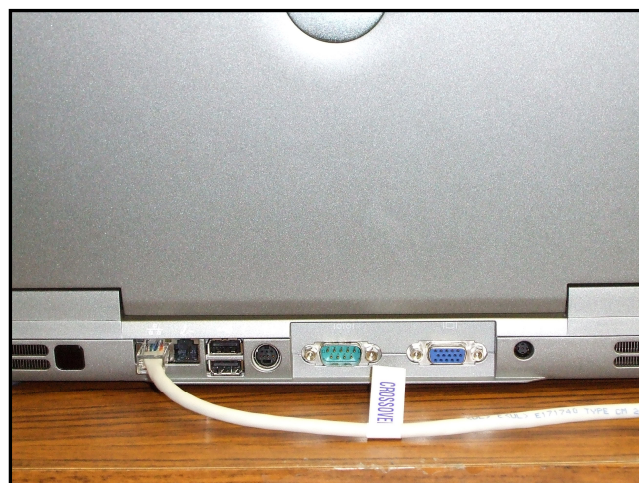


## Connecting to the MegaTron in Local Mode

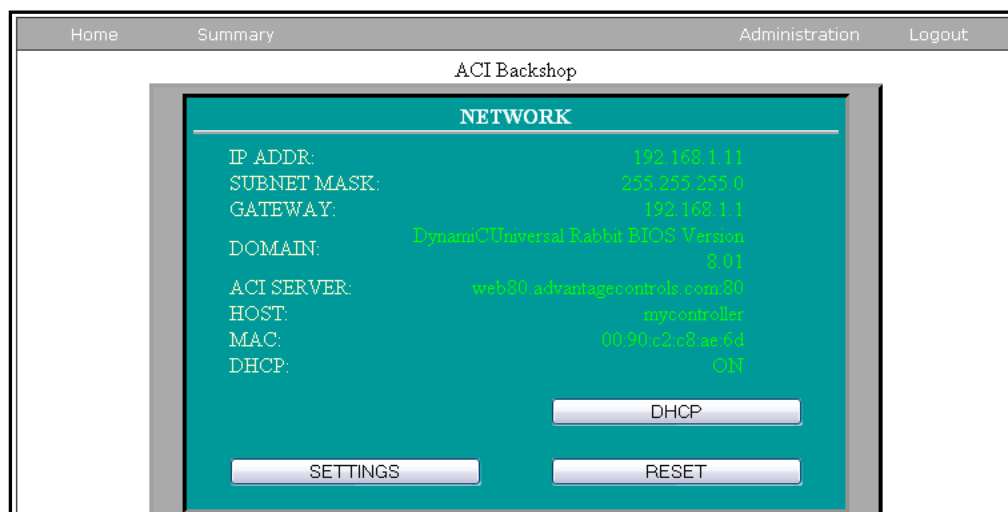
As the name implies, this connection method takes place locally, or within the confines of a local area network (LAN). This method involves a direct network connection between the MegaTron controller with an “H1” option and a stand-alone computer or LAN. This method is used most often when a user simply wants to download the data stored in the MegaTron to their laptop computer. This data is downloaded as a comma delimited text file (.txt) which can be imported into a spreadsheet program such as Excel. The stored data must be downloaded manually (no auto-polling feature). This mode also allows a user to view and change the MegaTron's settings from the computer interface.

To connect to a MegaTron in local mode, perform the following steps:

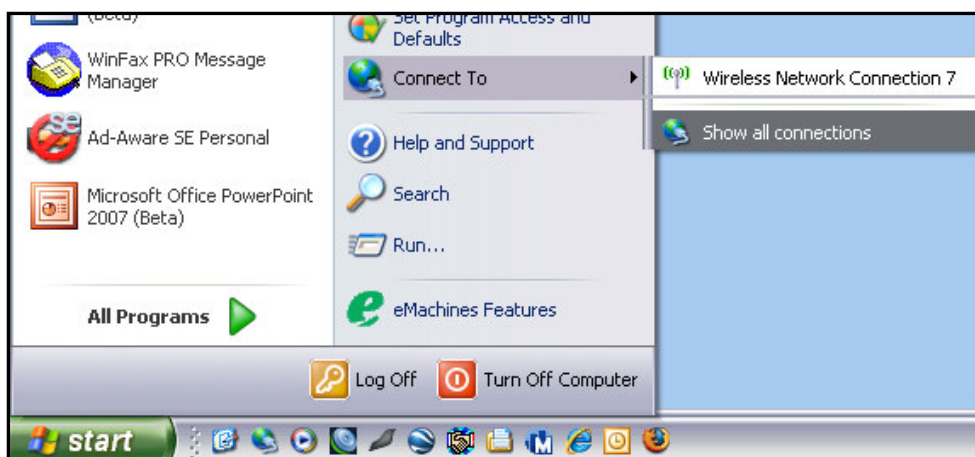
1. Locate the CAT5 Ethernet cable on the right side of the MegaTron enclosure and plug this cable into one end of the supplied coupler.
2. Locate the supplied crossover cable and plug it into the other end of the coupler.
3. Plug the free end of the crossover cable into the Ethernet (network) port of your computer or router.



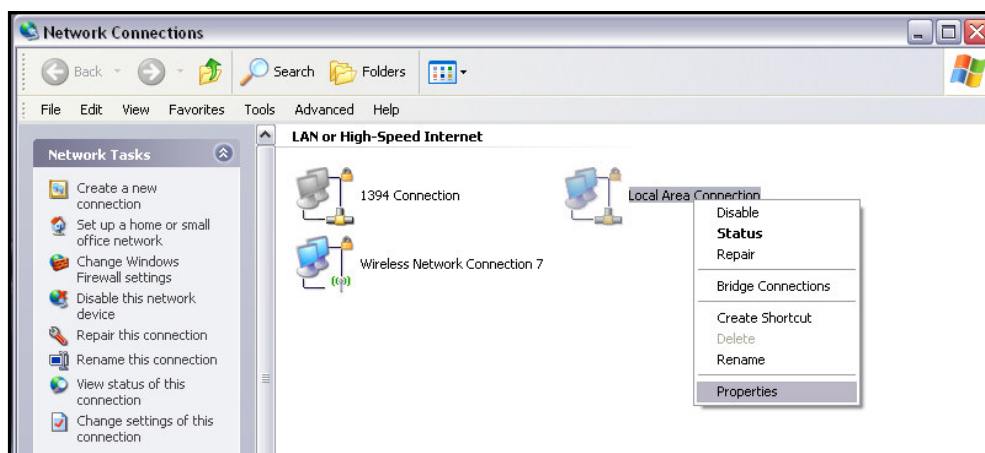
4. Press the SETUP/RUN button on the MegaTron keypad.
5. Press button #7 (CONFIGURE).
6. Press button #8 (NETWORK). A summary screen will now appear that displays the MegaTron's pre-programmed IP Address. Write this number down for later use.



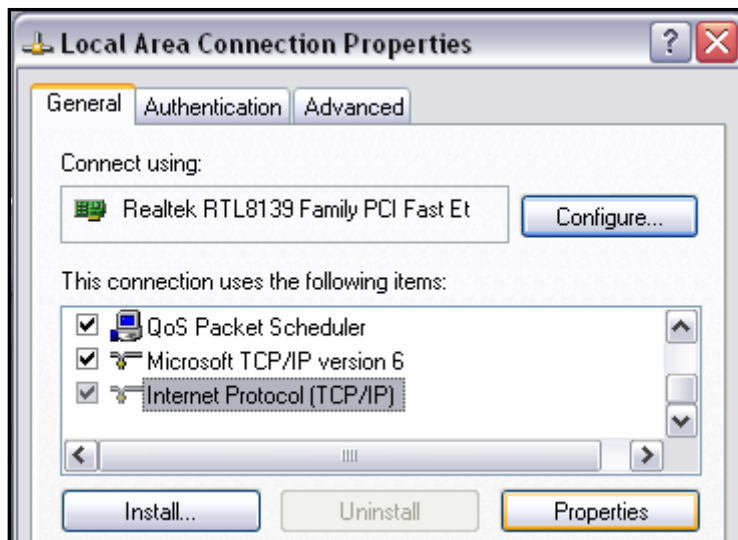
7. On your Windows XP computer, press the “Start” button, then select “Connect To”, and finally click “Show all connections”.



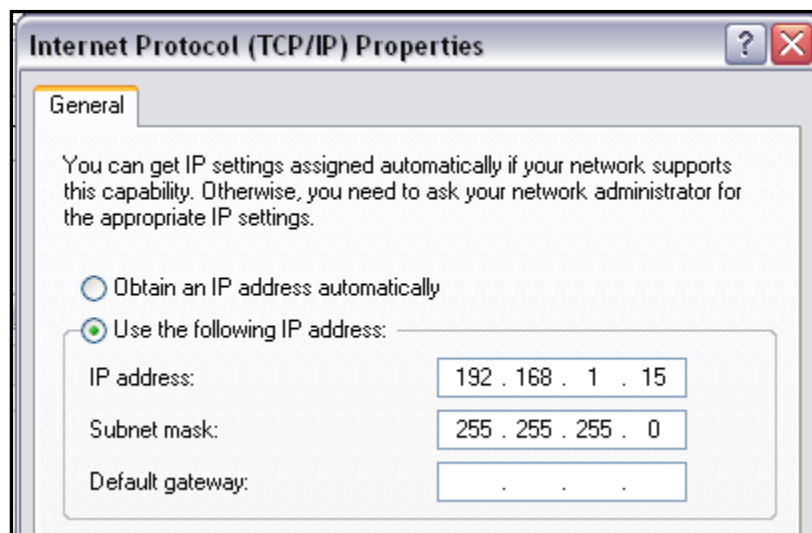
8. Right-click on the “Local Area Network” icon in the new window that appears, and select “Properties”.



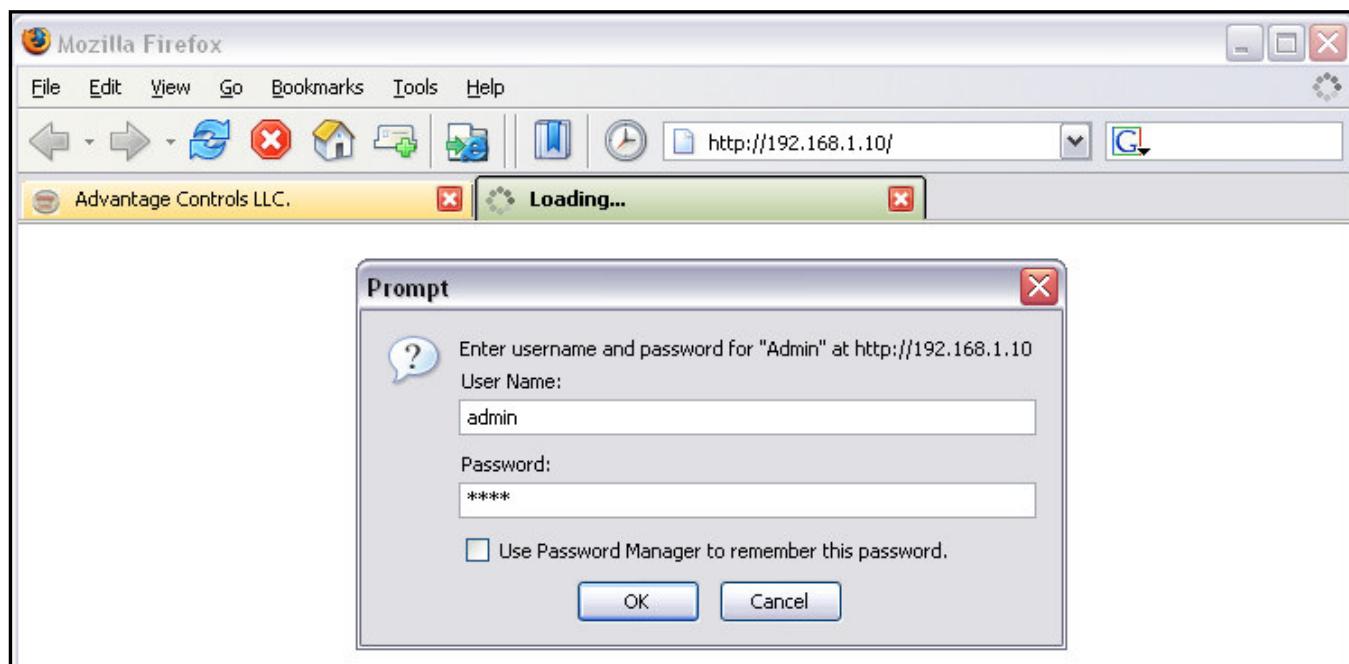
9. A new pop-up window will appear. Scroll down and highlight “Internet Protocol (TCP/IP)” and then click the “Properties” button.



10. In the next pop-up window, select the radio button that reads “Use the following IP address” and enter the MegaTron’s IP address obtained in step 3, except change the last digit of this number so that it is different from the MegaTron’s IP address (two networked devices can’t share the same exact IP address). Enter the subnet mask as “255.255.255.0” if it’s not already filled in. Ignore all other fields on this screen. Click “OK” to save these changes and click “Close” to exit the window. Once you have entered the IP address and subnet mask, the MegaTron should display SL at the bottom of the screen to indicate that it is communicating locally using a static IP address.



11. Open your internet browser of choice and type the MegaTron’s IP address from step 3 in the address bar and press “Enter” on your keyboard. Enter a user name of “admin” and a password of “0000” in the next popup box. Click “OK” to proceed. Congratulations! You’ve successfully connected in local mode.



## Navigating the Local Mode Interface

The following screen displays the local mode interface:

The screenshot shows a web browser window titled "Advantage Controls - HTTP Server - Mozilla Firefox" with the address bar showing "http://192.168.1.10/". The page content is titled "Advantage Controls" and "General".

**\* Links \***

- General
- Logs
- Communications
- (Systems)
- TOWER CARD 1
- TOWER CARD 2
- (Relays)
- Relay 1
- Relay 2
- Relay 3
- Relay 4
- Relay 5
- Relay 6
- Relay 7
- Relay 8
- Relay 9
- Relay 10

**\* General Settings \***

Name: Advantage Controls      Name of controller

Serial Number: LG-448      Serial Number.

Firmware Version: 0x4a413030

**Alarms**

System 1: 1

System 2: 1

**History**

Interval: 5 Minute (1 to 60 Minutes).

**Date/Time**

Date: 07/15/06      MM/DD/YY

Time: 13:01:16      HH:MM:SS

DOW: Saturday      Day of Week

Week: Week 1

**Miscellaneous**

Temperature Scale: ☐ Celsius ☒ Fahrenheit      Celcius or Fahrenheit.

**Reset**

Reset! ☐ Reset!      Check if you're sure you want to reset the Controller.

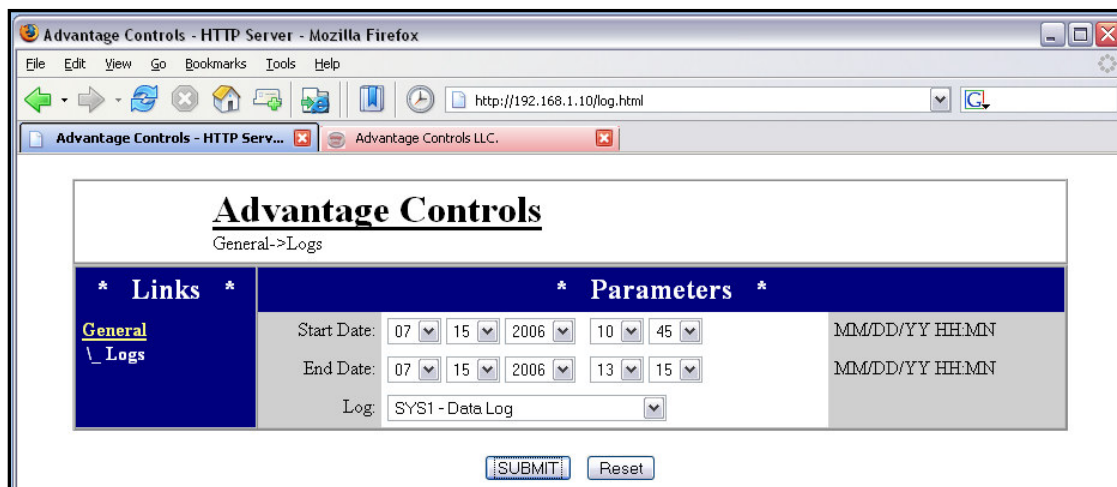
SUBMIT      Reset

From this interface, you can now view real-time data and change any of the controller's settings.

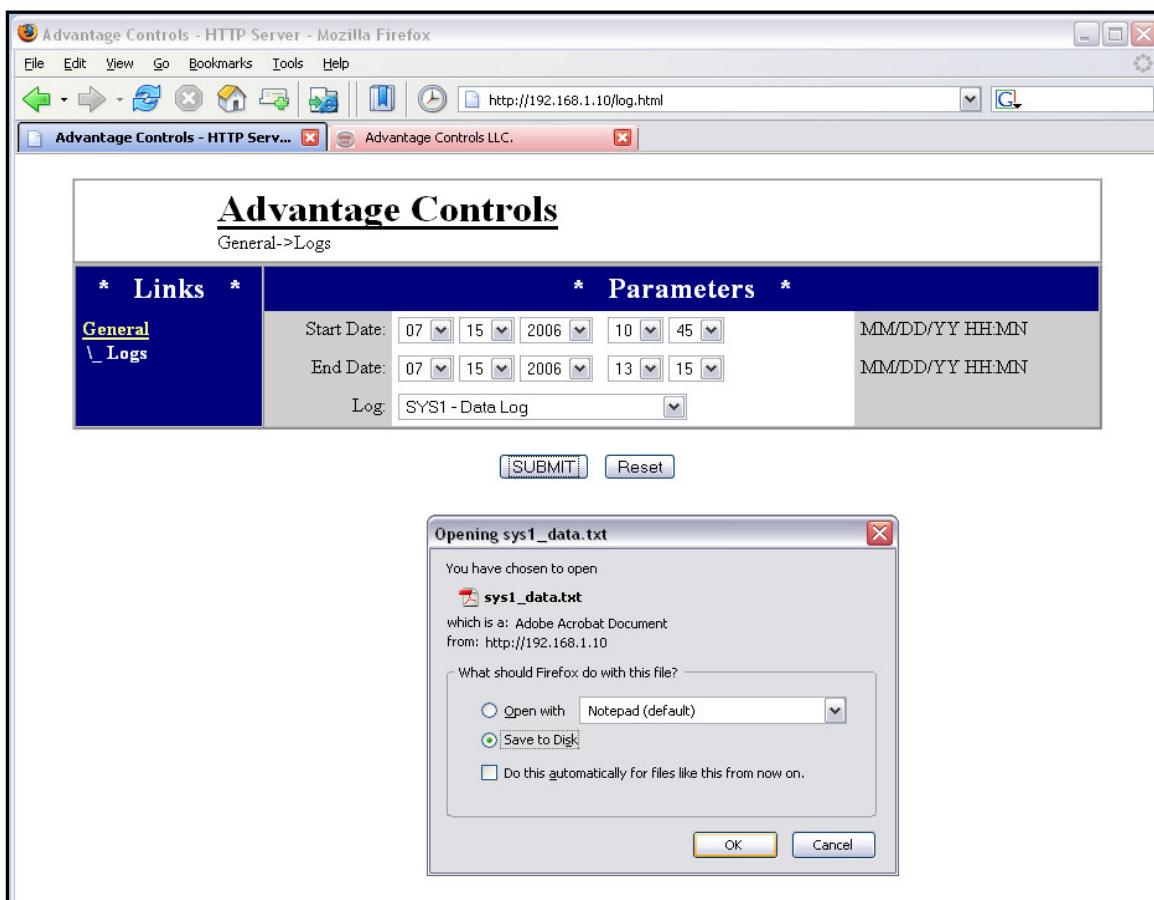
- **Logs Link** Allows you to download the controller's history data logs.
- **Comm. Link** Allows you to change controller's communications settings.
- **System Links** Allow you to view real-time data and change all controller setpoints, feed schedules, and water meter settings.
- **Relay Links** Allow you to manually activate each relay and change the relay assignment.

Since local mode is used primarily for manually downloading data logs, the rest of the local mode tutorial will focus on this procedure. The other local mode sub-menus are fairly self-explanatory and easy to navigate.

1. To begin the data log download process, click the “Logs” link on the left side of the screen.
2. Select the desired starting and ending point (date and time) along with the type of data logs you wish to download using the drop boxes on the following screen:

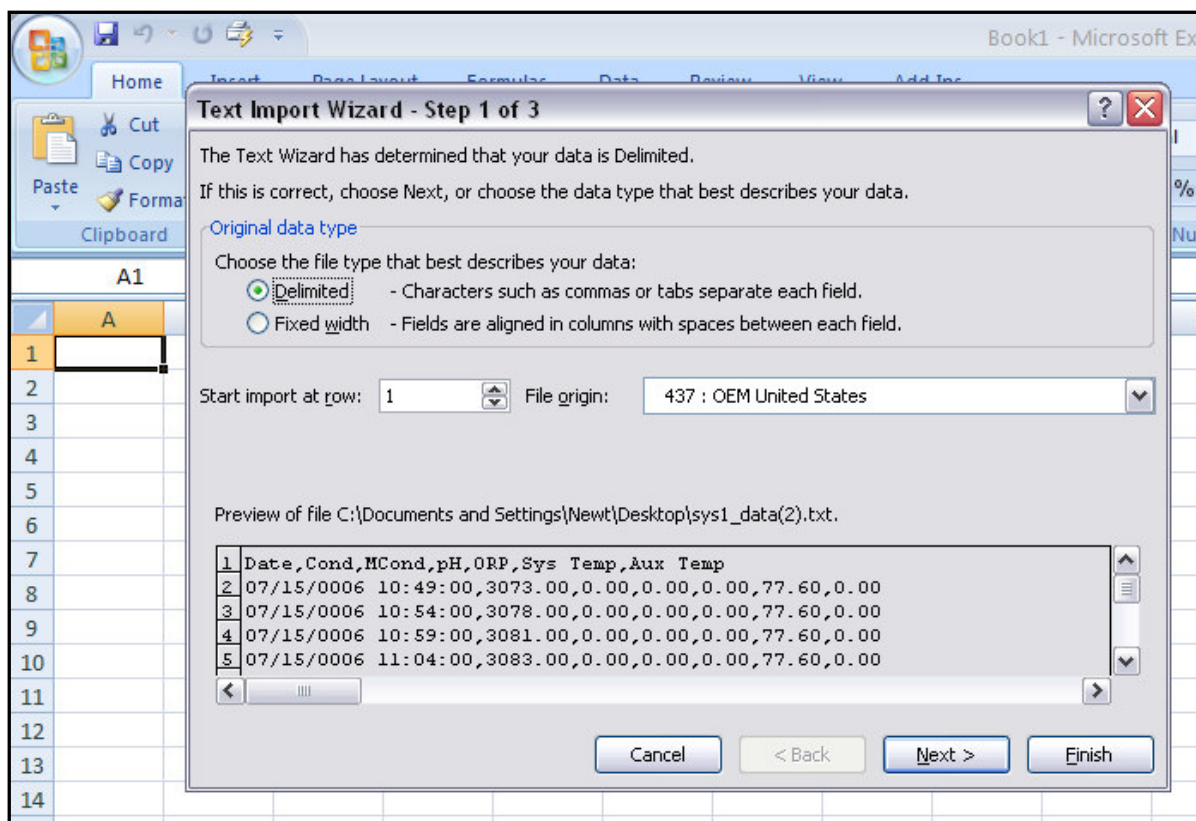


3. Click the “SUBMIT” button, and a pop-up box appears prompting you to either open or save the data log. It is recommended that you save all data logs in a dedicated folder on your computer for archiving purposes. To save the data logs, select the “Save to Disk” radio button and click “OK”.

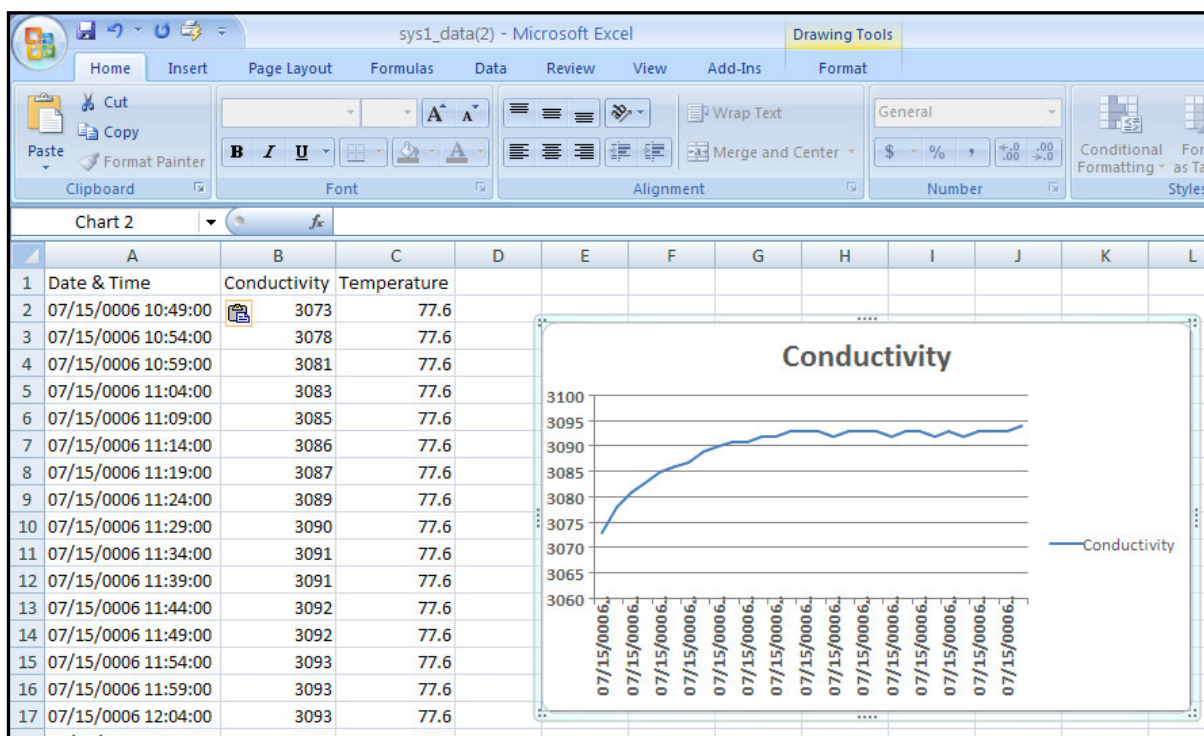




- Open the downloaded data log using the spreadsheet program of your choice. Since it is saved as a comma-delimited text file, your spreadsheet program may guide you through an import wizard to properly format the data. The following screenshot is from the most recent version of Microsoft Excel:



- Once the data has been successfully imported, you can then remove any unused data fields and format the spreadsheet to your liking. Be sure to save the spreadsheet when you are finished making any changes.



## Connecting to the MegaTron via WebAdvantage

WebAdvantage is a subscription-based service for communicating with your MegaTron controllers using the Internet. Some of the many WebAdvantage highlights include:

- Real-time remote monitoring of system data using any PC or smart phone.
- Full remote control of all MegaTron operating parameters (e.g., setpoints, feed schedules, relay activation, etc.)
- Controllers that are online all the time and monitored continuously by the WebAdvantage servers.
- A single login allowing you to view all your MegaTron controllers at once.
- Internet-based remote monitoring eliminating the need for proprietary desktop software.
- Redundant data backup on multiple WebAdvantage servers for permanent archiving.
- No need to manually download data or setup an auto-polling service since WebAdvantage continually collects controller operating data.
- Multiple connection methods (LAN/Ethernet, cellular modem, dial-up modem).
- Fully automated and customized e-mail summary reports of any or all MegaTron operating data in graphical and/or tabular format.
- Alarm conditions sent via e-mail to multiple e-mail addresses.

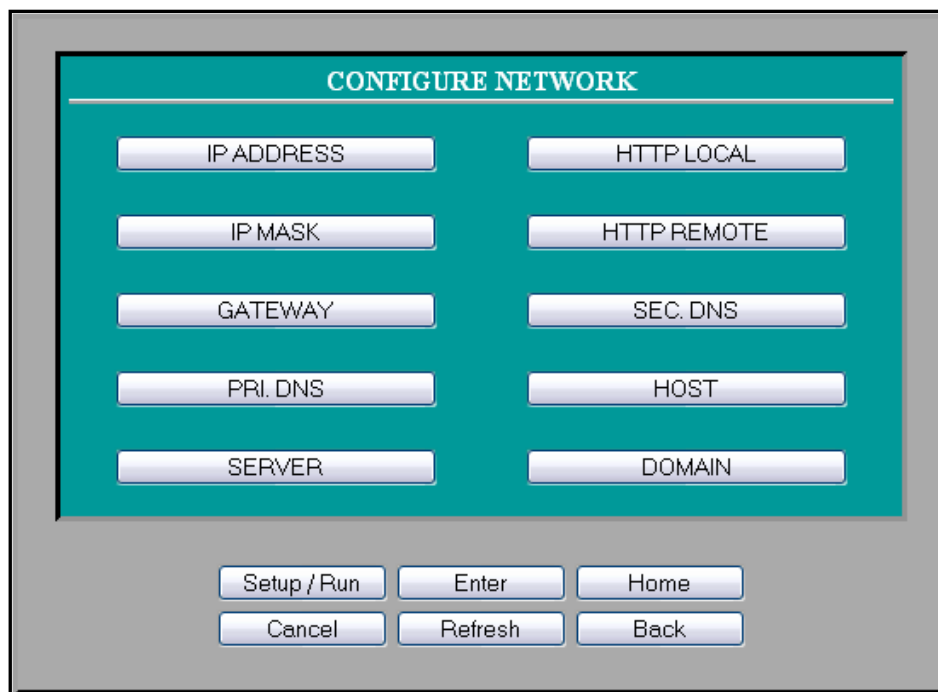
Setting up a WebAdvantage connection is a very simple procedure. The following WebAdvantage connection steps examine the most commonly used connection method (Ethernet connection):

1. Locate the CAT5 Ethernet cable on the right side of the MegaTron enclosure and plug this cable into the data port supplied by the facility.



If the facility has allowed the MegaTron to access the Internet using DHCP, the setup procedure is complete! The MegaTron should now display **DR** at the bottom of the screen to indicate that the MegaTron is connected to the Internet using a DHCP-assigned IP address. If the facility requires the use of a static IP address, continue with steps 2-10.

2. Obtain the following information from the facility's IT department:
  - IP address
  - IP subnet mask
  - Gateway
  - Primary DNS
  - Secondary DNS (optional)
3. Press the SETUP/RUN button on the MegaTron keypad.
4. Press button #7 (CONFIGURE).
5. Press button #8 (NETWORK).
6. Press button #5 (SETTINGS).
7. Press button #9 (DHCP) and make sure it is set to "DISABLED".
8. Press button # 5 (SETTINGS).
9. Press button #1 (IP ADDRESS) and enter the IP address assigned by the facility's IT department. Use the number keys to enter numerical values, press the right arrow key to advance to the next number position, and use the up & down arrows to scroll through the special characters to locate the decimal key.
10. Press the ENTER button to save the IP address.
11. Repeat this process for each of the remaining network settings obtained in step 2.



12. Once all required network settings have been entered, press the "BACK" button the MegaTron keypad and then press button #10 (RESET). The MegaTron communications card will update and apply the new network settings.



After this procedure is complete, the MegaTron should now display **SR** at the bottom of the screen to indicate that it is connected to the Internet using a static IP address. If the display reads **DL** or **SL** after completing the above steps, the MegaTron is connected to the facility's LAN, but has not been given the proper network clearance to access the Internet. Contact the facility's IT department and ask them to review the permissions assigned to the data port in question.

Before you can access a new MegaTron controller via WebAdvantage, a registration form must be completed and returned to the Advantage Controls IT department. This form, included with every WebAdvantage-enabled MegaTron, requests contact information for the MegaTron owner and allows you to select your own user name and password for accessing the unit online. Once this data is entered into the WebAdvantage server, the MegaTron will be available for remote access.

## Navigating the WebAdvantage Interface

To communicate with a MegaTron using WebAdvantage, perform the following steps:

1. Open the Internet browser of your choice and surf to [webadvantage.advantagecontrols.com](https://webadvantage.advantagecontrols.com).
2. Click "Login" in the upper right hand corner of the screen and enter the user name and password for your controller(s).

3. Click the radio button next to the controller you wish to view and click "View" or "History"
  - "View" allows you to view real-time controller data and make changes to all operating parameters.
  - "History" allows you to view historical data or setup automated summary reports.
  - A unit with a green "On-Line" indicator is online and working properly.
  - A unit with a yellow "Alarm" indicator is currently in an alarm condition.
  - A unit with a red "Off-Line" indicator is either without power or has lost its connection to WebAdvantage.

<input type="radio"/> OCCC Main Condenser	LC-1354	Megatron	On-Line
<input type="radio"/> Office Controller	T142FLK68B0501	Megatron	Off-Line
<input type="radio"/> OMNOVA SOLUTIONS	IL-749	Megatron	Alarm
<input type="radio"/> PASSAVANT BOILER	JL-807	Megatron	On-Line
<input type="radio"/> PASSAVANT COOLING TOWERS	JJ-368	Megatron	Alarm
<input type="radio"/> Precise 700 New Tower	IL-424	Megatron	Off-Line
<input type="radio"/> Precise 700 Old Tower	IL-423	Megatron	On-Line
<input type="radio"/> Precise 800 Tower	IL-425	Megatron	On-Line

Clicking the “View” button will bring up a screen that closely resembles the physical MegaTron interface:

The screenshot displays a web-based control interface for a "MED CHILLER ROOM". At the top, there is a navigation bar with links: Home, Summary, Administration, and Logout. The main title "MED CHILLER ROOM" is centered. Below it, a teal-colored panel contains a dropdown menu set to "SYS1: OPEN LOOP CONTROL". The panel is divided into two columns. The left column shows "COND: 2884 uS/cm" and "ORP: 574 mV". The right column shows "STATUS: SYS OK", "WM1: 47391.0", "WM2: 0.0", and "FLOW: ON". Below these readings are two buttons: "SYSTEM OK" and "RELAYS". At the bottom of the teal panel, the date "Saturday, July 15, 2006" and time "04:00:40 PM (Week 3)" are displayed. Below the teal panel, there are six buttons arranged in two rows: "Setup / Run", "Enter", "Home" in the first row, and "Cancel", "Refresh", "Back" in the second row.

Navigate through the various WebAdvantage menus using the same exact programming procedure employed by the MegaTron. Click the “Summary” button at the top of the screen at any time to return to your list of available controllers.

The screenshot displays a web-based control interface for a "MED CHILLER ROOM", specifically the "SYSTEM 1 CONDUCTIVITY SETPOINTS" screen. The navigation bar at the top includes Home, Summary, Administration, and Logout. The main title "MED CHILLER ROOM" is centered. Below it, a teal-colored panel has a title "SYSTEM 1 CONDUCTIVITY SETPOINTS". The panel lists several parameters: "Sample Method: CONTINUOUS", "Set Point: 2900 uS/cm (RISING)", "Differential: 50 uS/cm", "High Alarm at: 3100 uS/cm (DISPLAY)", "Low Alarm at: 600 uS/cm (DISPLAY)", and "Limit Time: 00:00 HHMM (DISPLAY)". At the bottom of the teal panel are two buttons: "SETPOINTS" and "SAMPLE METHOD". Below the teal panel, there are six buttons arranged in two rows: "Setup / Run", "Enter", "Home" in the first row, and "Cancel", "Refresh", "Back" in the second row.

## Displaying History Graphs & Logs

Clicking the “History” button from the controller summary screen brings up the following page:

History Menu

Custom Graphs

Sensor Data

Notepad

Water Meter

Relay Events

Alarm Events

Special Events

Back

To view historical sensor data (conductivity, makeup conductivity, pH, ORP, temperature, etc.), click the “Sensor Data” button and then specify the date range, sensor choice(s), and span of each sensor graph.

Sensor Data - MED CHILLER ROOM

System: OPEN LOOP CONTROL

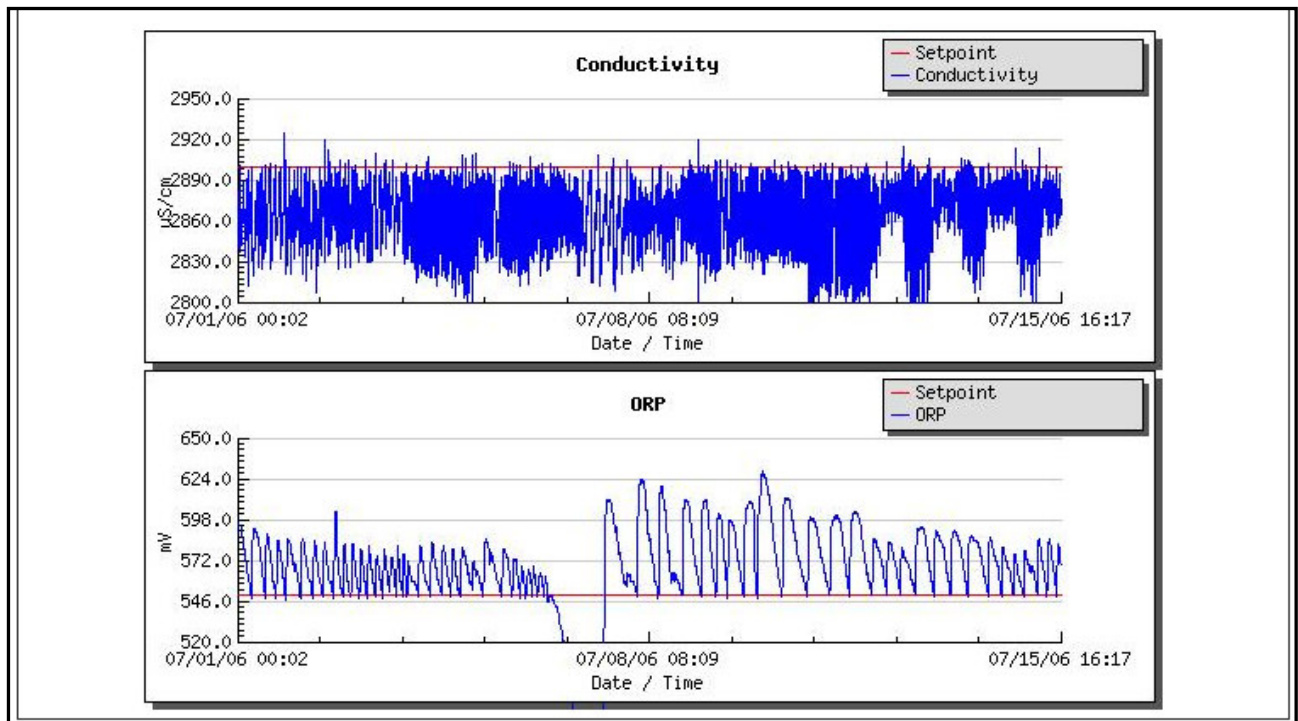
Start Date: 2006-07-01 00:00

End Date: 2006-07-15 23:45

Option	Graph Minimum	Graph Maximum	UOM
<input checked="" type="checkbox"/> Conductivity	0	5000	uS/cm
<input checked="" type="checkbox"/> ORP	-200	200	mV
<input type="checkbox"/> Temp 1	0	150	°F

Graph Log Back

Click the “Graph” or “Log” button to display the sensor data in the format of your choice.



The same basic procedure is used for viewing data from Notepad entries, water meter readings, relay activity, and alarm & special events.



## Creating Customized Reports

Use the following steps to create a customized summary report that will be automatically e-mailed on a regular basis:

1. Click the “Custom Graphs” button from the History menu.
2. Click the “Add” button.
3. Click the “Edit” button and the following screen will appear:

Home Summary Administration Logout

### Edit Graph - ACI MEGATRON

Name:

Interval:

Min:

Max:

#### Automatic Emailing

Email Date:

*\* This is the date on which you will receive the email.  
Only data in the interval range BEFORE this date will be included in the email.*

Logs:

Email Addresses:

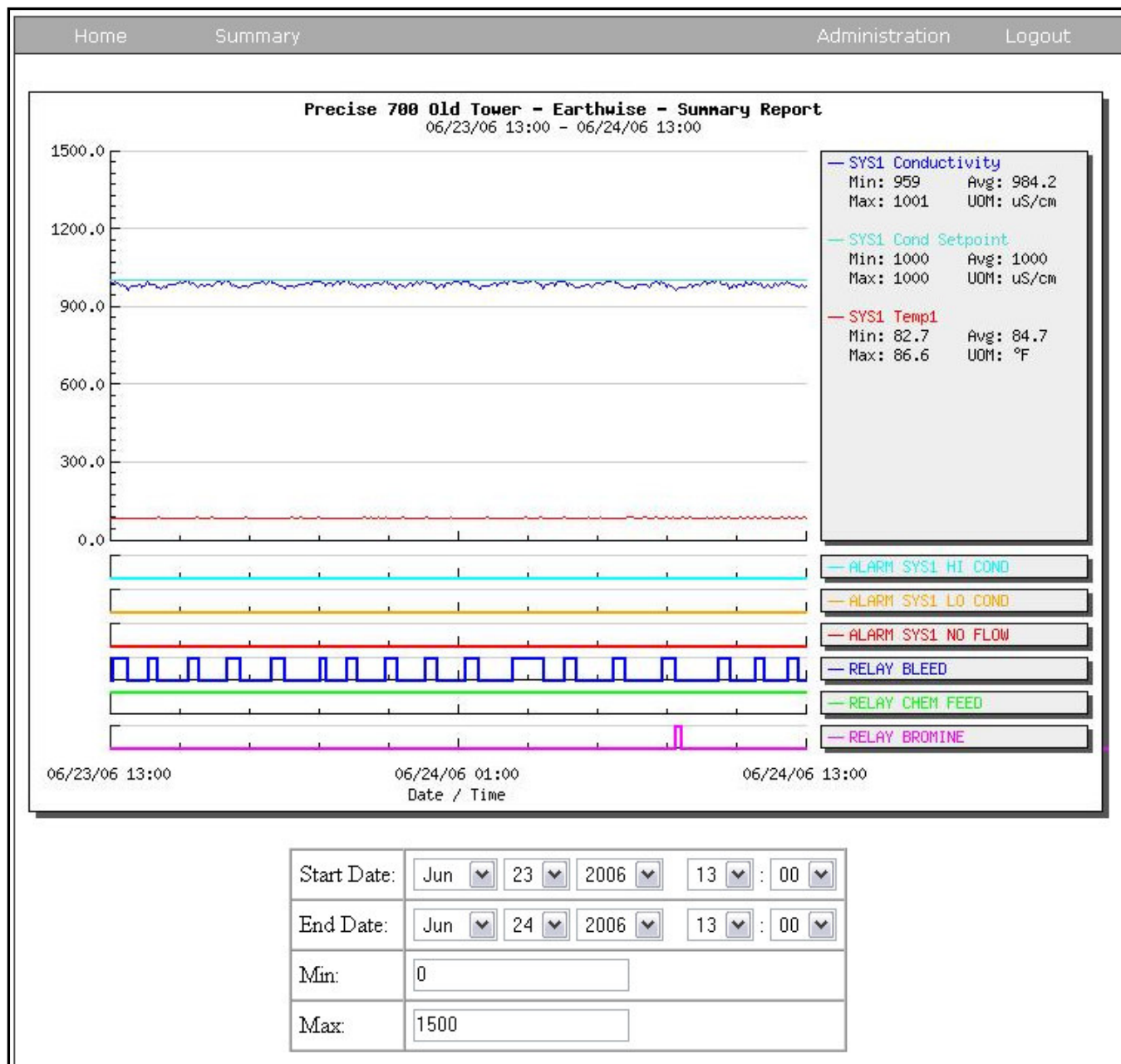
*\* Separate multiple addresses with a comma.*

#### Channels

Data Name	Color	Delete
<input type="button" value="Add Channel"/>		

4. Assign a name to your graph by filling in the “Name” field.
5. Specify how often the graph should be e-mailed by choosing a selection from the “Interval” drop-box.
6. Specify the data span for your graph by choosing minimum and maximum limits in the “Min” and “Max” fields. Try to pick a data range that corresponds to the measurement range of the sensor in question (e.g., 800-2500 for tower conductivity, 6.5-8.5 for pH, etc.). This will provide nice resolution for the data without giving too much blank space on the graph. It is a good idea to create separate summary graphs for variables with dissimilar measurement ranges in order to provide the most meaningful graphs.
7. Specify the date of the first e-mail report using the “Email Date” drop box.
8. Using the “Logs” drop box, specify whether you wish to receive an additional text file log along with your graphs. You can use the text log to import data into a spreadsheet program for further manipulation.
9. Specify the e-mail addresses of additional report recipients in the “Email Addresses” field.
10. Click the “Add Channel” button to add your first data parameter. Using the drop boxes, choose from the list of all controller operating data (sensor readings, water meter readings, relay activity, alarm conditions, Notepad entries, etc.) and select a color to represent this parameter on your graph. Repeat this step to add additional data parameters as desired.

You can view your customized summary report at any time by clicking “View” on the summary report screen. The following WebAdvantage summary report for a cooling tower at a plastic injection molding plant shows the conductivity, recirculating water temperature, alarm conditions, and relay activity.



## WebAdvantage User Administration

The WebAdvantage interface allows you to setup a hierarchy of controller groups and sub-groups. Each group could represent a single end-user facility, a single end-user customer with multiple MegaTrons, a water treatment district, a sales region, an entire water treatment company, and so on. Individual users can be assigned a user name and password that allows them to view only the controllers within their particular sub-group. A hierarchy system is used so that users at the top levels have access to all MegaTrons beneath them.

To access the group and user administration page, click on “Administration” from the controller summary screen. To add a sub-group, simply type a group name in the “Name” field and click the “Update” button.

The screenshot shows the 'Administration' page with the following elements:

- Navigation bar: Home, Summary, Administration (selected), Logout
- Section Header: Administration
- Group: \ ABC Inc. (dropdown menu)
- Task: Group Administration (dropdown menu)
- Section Header: Group Administration
- Description: This section is used to add, update and delete subgroups for the selected group.
- Left sidebar: -Add New- (button), Dick Fiala (list item)
- Name: District 112 (text input field)
- Buttons: Update, Delete

To add users to the newly created sub-group, click the “Group” drop box and select the appropriate subgroup, then click the “Task” drop box and select “User Administration”. Fill in the new user information in the appropriate fields. Specify whether the user can administrate other users and sub-groups below them and click the “Update” button to finish.

The screenshot shows the 'Administration' page with the following elements:

- Navigation bar: Home, Summary, Administration (selected), Logout
- Section Header: Administration
- Group: \ \ District 112 (dropdown menu)
- Task: User Administration (dropdown menu)
- Section Header: User Administration
- Description: This section is used to add, update and delete users and their associated information from the selected group.
- Left sidebar: -Add New- (button)
- User Name: crobbins (text input field)
- First Name: Chris (text input field)
- Middle Name: (text input field)
- Last Name: Robbins (text input field)
- Email: crobbins@abcinc.com (text input field)
- Password: (password input field)
- Confirm Password: (password input field)
- Group Admin: No (dropdown menu)
- Buttons: Update, Delete, Show Controllers

To add controllers to a subgroup, click the “Group” drop box and select the group in which the controller currently resides (typically the main group heading). Next, click the “Task” drop box and select “User and Controller Transfer”. Finally, select the controller to be transferred and the sub-group to which it is being transferred and click the “Update” button.

The screenshot displays a web application interface for system administration. At the top, a navigation bar includes links for Home, Summary, Administration (the active page), and Logout. Below this, a section titled "Administration" contains two dropdown menus: "Group" set to "ABC Inc." and "Task" set to "User and Controller Transfer".

The main content area is titled "User and Group Transfer" and includes a descriptive text: "Description: This section is used to transfer users and controllers to a different group. Use 'Ctrl' and 'Shift' to select multiple items." Below the description, there are two list boxes on the left. The "Controllers to Transfer" list contains the item "ABC Inc. North 40 - KG-333". The "Users to Transfer" list contains the items "evcomed", "kcoder", "kross", and "mhouse".

To the right of these lists is a "Transfer to:" section with a dropdown menu currently showing "ABC Inc.". A list of available target groups is displayed below the dropdown: "ABC Inc.", "\ Dick Fiala", and "\ District 112". An "Update" button is positioned to the right of the "Transfer to:" dropdown.