



FlowStation 2 User Manual for Shared Flow Applications

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1- Introduction

Baseline's FlowStation allows up to 20 BaseStation 3200 irrigation controllers to share water resources including water sources, control points, and mainlines.

The BaseStation 3200 irrigation controllers and the FlowStation communicate with each other over a local TCP/IP network connection. The connections can be a combination of wired Ethernet, Wi-Fi, and Ethernet radios.

The FlowStation can manage 20 water sources, 20 control points (CP), and 40 mainlines. Each mainline aggregates the available water from each water source, and the FlowStation intelligently allocates water resources to the programs running on the controllers in the shared flow group. Each program can be assigned a priority on the BaseStation 3200 controller, and the FlowStation will allocate water to the highest priority programs first.

Flow Monitoring

The BaseStation 3200 monitors the control point for high and unexpected flow events, reports faults to the FlowStation, and shuts down the mainlines that are assigned to the control point. The FlowStation takes immediate action when a flow fault is detected and discontinues use of the faulted control point for the shared flow group.

Flow Management

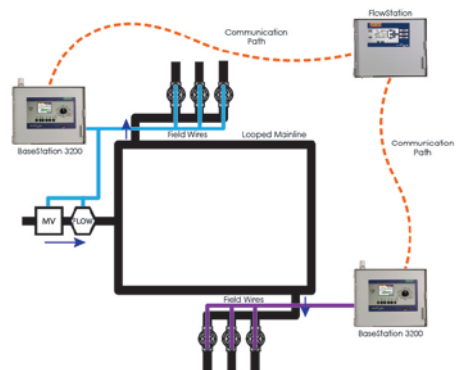
The FlowStation will maximize the number of valves and controllers that can operate at once based on the amount of water that is available. You can configure the FlowStation to manage the flow by electrical concurrency or by available GPM.

Understanding Shared Flow Design and Operation

A shared flow group consists of several BaseStation 3200 irrigation controllers, a FlowStation, the water sources, the control points, and the mainlines that have been turned over to the FlowStation. The FlowStation is the monitor for the entire group of controllers. It monitors the available water and allocates the water to the controllers based on priorities and concurrent zone settings.

After all components in the shared flow group are communicating and configured, the BaseStation 3200 asks the FlowStation for water to run a program. The FlowStation allocates the water, and the programs start based on their priorities.

The controller sends status and flow information to the FlowStation once per minute. You can view status reports on the FlowStation.



Understanding Shared Flow Terminology

The irrigation industry uses a variety of terms to describe water supplies, piping structures, and flow scenarios. These terms may or may not have standard definitions in the industry. To avoid confusion, please review Baseline's definitions for some of these common terms.

Flow Device: A device that is capable of measuring water flow and water used, includes flow sensors and flow meters

Mainline: A section of pressurized pipe that supplies water from a control point to the valves. A "shared" mainline is managed by the FlowStation. A "local" mainline is managed by the BaseStation 3200 irrigation controller.

Master Valve (MV): A valve used to control when water is allowed to flow through that control point. Often used to protect the landscape from flooding in case of a ruptured main or a malfunctioning downstream valve.

Normally Closed Master Valve (NCMV): An automatic valve through which no water will flow unless external influences are applied to cause the valve to open

Normally Open Master Valve (NOMV): An automatic valve through which water will flow unless external influences are applied to close the valve

Control Point (CP): A control point is a hydraulic component in Baseline controllers that collects data from assigned devices, and then enables the irrigation system to act on that data. Each control point can have assigned devices such as a flow sensor/meter, a pump, a master valve, and/or a pressure sensor. A control point must be assigned to a water source. It can also have a "mainline in" and a "mainline out" assignment. A "shared" control point is managed by the FlowStation. A "local" control point is managed by the BaseStation 3200 irrigation controller.

Water Source: A water source specifies where water is coming from. Each water source must be assigned to a single control point. A "shared" water source is managed by the FlowStation. A "local" water source is managed by the BaseStation 3200 irrigation controller.

2 – Installing Shared Flow Components

Installing the FlowStation and Communication Module

Install the FlowStation enclosure and the communication module according to the instructions that came with the equipment.

Make sure the FlowStation is powered up and the communication module is connected.

To find the required tasks for setting up the FlowStation, refer to the section on Configuring the FlowStation on page 10 of this User Manual.

Installing the BaseStation 3200 Irrigation Controllers

Refer to the BaseStation 3200 User Manual to install and set up the controllers.

To find the required tasks for setting up the BaseStation 3200 to use shared flow, refer to the section on Configuring the BaseStation 3200 Irrigation Controller for Shared Flow on page 4 of this User Manual.

Installing Flow Devices and Sensors

Install the flow sensor and/or meter, a pump, a master valve, and/or a pressure sensor according to the instructions that came with the equipment.

3 – Configuring the BaseStation 3200 Irrigation Controller for Shared Flow

The FlowStation and BaseStation 3200 controllers in a shared flow group communicate with each other over a network. In some implementations, a stand-alone network is established between the controllers and the FlowStation, and this network does not need to be connected to the Internet. In other implementations, the FlowStation will be connected to an existing network that the controllers are already connected to.

If the FlowStation and the BaseStation 3200 controllers in the shared flow group will connect to an existing network that is managed by a network administrator, you need to ask the admin to set up a static IP address for the FlowStation. Also ask the admin for the Subnet Mask and the Gateway settings for the network. If the BaseStation 3200 controllers are already connected to this network, you need to connect the FlowStation to the network (refer to Setting Up a Static IP Address on the FlowStation on page 32), and then connect the controllers to the FlowStation (refer to Connecting a BaseStation 3200 Controller to the FlowStation).

If the devices in the shared flow group will connect to a stand-alone network, make sure the communication modules in the FlowStation and the BaseStation 3200 controllers are powered up and communicating. Set up the static IP addresses on the FlowStation and the controllers. After all devices are on the network, you can connect the controllers to the FlowStation (refer to Connecting a BaseStation 3200 Controller to the FlowStation).

Connecting a BaseStation 3200 Controller to the FlowStation

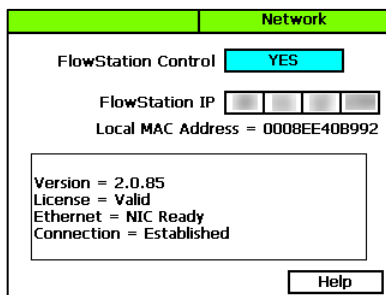
After your FlowStation is powered up and connected to the network, you need to connect your BaseStation 3200 irrigation controllers to the FlowStation.

IMPORTANT NOTE! If you are connecting a BaseStation 3200 controller that is already in service to a FlowStation, make sure that the controller has been updated to the most current firmware version. The current firmware version is listed on the Firmware Updates page on the Baseline website (www.baselinesystems.com). Refer to the BaseStation 3200 User Manual to find instructions for updating the controller firmware.

1. Get the **IP Address** from the FlowStation.
 - a. On the FlowStation, press the **System Setup** button.
 - b. Press the **↓** button to select the **Network Setup** option, and then press the **OK** button. The Network Setup menu displays.
 - c. Press the **↓** button to select the **IP Info** option, and then press the **OK** button. The IP Info screen displays.
 - d. Find the IP address of the FlowStation in the **IP ADDR** field, and then write it down.

2. On a BaseStation 3200 irrigation controller that you want to connect to the FlowStation, turn the dial to the **Network** position.
3. Press the **Next** button to highlight the **FlowStation Setup** option.
4. Press the **Enter** button. The Network screen displays.
5. In the **Flow Station Control** field, press the + button to change the setting to **YES**.
6. Press the **Next** button to move to the first cell of the **Flow Station IP** field.
7. Press the + button to change the number to match the number in the first group of the IP address of the FlowStation.

Note: Press and hold the + button or the – button to rapidly increase or decrease the number in the field.



Tip: The highest value allowed in these fields is 255. If the number that you need to enter is closer to 255 than to 0, press and hold the – button until the value in the field changes to 255. Continue to press and hold the – button until the desired value displays in the field.

8. Complete the IP address by pressing the **Next** button to move to the next cell of the **Flow Station IP** field, and then pressing the + button to change the number. The message box at the bottom of the screen indicates that the connection is established.

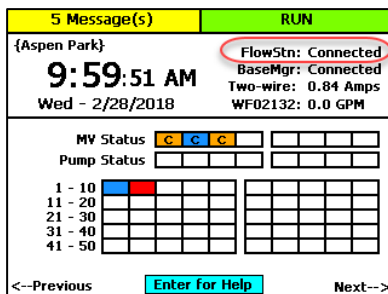
Note: The connection between the controller and the FlowStation is not complete until you assign the controller on the FlowStation. Refer to Assigning BaseStation 3200 Controllers to the Shared Flow Group on page 14.

9. Repeat steps 3 through 8 on each BaseStation 3200 irrigation controller that you want to connect to the FlowStation.

Checking the BaseStation–FlowStation Connection Status

When the dial on the BaseStation 3200 controller is in the **RUN** position, review the status of the FlowStation connection in the **FlowStn** field in the upper-right corner of the screen.

- **Wait Auth:** This status displays after the FlowStation-controller network connection has been established and you have connected the controller to the FlowStation. This status continues to display until you add the controller to the shared flow group in the FlowStation. Refer to Assigning the Controllers to the Shared Flow Group on page 14.
- **Connected:** This status displays after the controller has been added to the shared flow group.



Setting Up a Static IP Address on the BaseStation 3200

Perform this procedure if you find that the BaseStation 3200 controllers in the shared flow group need to be assigned a static IP address.

1. Connect and configure the communication module. Check the status lights and indicators on your communication equipment to ensure that it is powered up and appears to be sending and receiving data.
2. On a BaseStation 3200 irrigation controller that you want to connect to the FlowStation, turn the dial to the **Network** position.
3. Press the **Next** button to highlight the **Ethernet Setup** option, and then press **Enter**. The Setup Ethernet screen displays.
4. In the **IP Address Mode** field, press the + or – button to change the value to **Static IP**.

Note: For a definition of the fields on the Setup Ethernet screen, refer to Understanding the Ethernet Settings on the BaseStation 3200 on page 7.

5. Determine the static IP address that you will assign to the BaseStation 3200. The IP address is based on the IP addresses of the other devices on the network, but **it must have a unique last digit**.

| Ethernet | Network |
|-------------------------------------|---|
| IP Address Mode | Static IP |
| IP Address | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| Subnet Mask | 255 255 255 0 |
| Default Gateway | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| Preferred DNS Server | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| Preferred DNS Server | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| <input type="button" value="Help"/> | |

Example: The communication modules in your FlowStation and controllers have factory-assigned IP addresses ranging from 192.168.111.100 to 192.168.111.106. You can set the static IP address on the BaseStation 3200 to 192.168.111.107. Additional BaseStation 3200 controllers in this shared flow group would use 192.168.111.108, 192.168.111.109, and so on.

6. Press the **Next** button to highlight the first box in the **IP Addr** field.
 - Press the **Previous** or **Next** button to move to the box that you want to change.
 - Press the + or – button to change the value in the field.

Note: To rapidly increase or decrease the value, press and hold the + button or the – button.

Tip: The highest value allowed in these fields is 255. If the number that you need to add is closer to 255 than to 0, press and hold the – button until the value in the field changes to 255. Continue to press and hold the – button until the desired value displays in the field.

7. Press the **Next** button to move to the **Subnet Mask** field. Use the procedure described in step 6 to move within the boxes and change the values. A typical value for the Subnet Mask is 255.255.255.0

Note: Set the Subnet Mask for all devices in your shared flow group to the same value.

- Press the **Next** button to move to the **Default Gateway** field. Use the procedure described in step 6 to move within the boxes and change the values.

Example: For the IP addresses in the example for step 5, the value for the Default Gateway would be 192.168.111.1.

Note: Set the Default Gateway for all devices in your shared flow group to the same value.

- Leave the **Preferred DNS Server** fields set to zeros.

Understanding the Ethernet Settings on the BaseStation 3200

When your controller is connected to a network with a supported communication module, the system automatically assigns the networking addresses that enable the connection. You might need to refer to this information in order to complete your connection or to troubleshoot it.

- Connect and configure the communication module. Check the status lights and indicators on your communication equipment to ensure that it is powered up and appears to be sending and receiving data.
- Turn the dial to the **Network** position.
- Press the **Next** button to highlight the **Ethernet Setup** option, and then press **Enter**. The Setup Ethernet screen displays the following information:

- DHCP (Dynamic Host Configuration Protocol)** – The default network configuration for the BaseStation 3200. This protocol allows your controller to automatically obtain an IP address which enables the connection to the Internet. Every time you restart your controller, it retrieves a new IP address.
- Static IP** – An IP address that is permanently assigned
- IP Addr** – An Internet Protocol address (IP address) is a number that identifies a device (such as the controller) on a network.

| Ethernet | Network |
|-------------------------------------|----------------------|
| IP Address Mode | DHCP |
| IP Address | <input type="text"/> |
| Subnet Mask | 255 255 255 0 |
| Default Gateway | <input type="text"/> |
| Preferred DNS Server | <input type="text"/> |
| Preferred DNS Server | <input type="text"/> |
| <input type="button" value="Help"/> | |

- Subnet Mask** – The subnet mask is used with an IP address to indicate what network traffic should be permitted or denied.
- Default Gateway** – An IP address that enables the network traffic from your controller to pass through to a larger network
- Preferred DNS Server 1** – A naming system (Domain Name System) for devices, such as your controller, that are connected to the Internet
- Preferred DNS Server 2** – An additional domain name that is assigned to your controller

Configuring the Shared Flow Settings on the BaseStation 3200

When a BaseStation 3200 irrigation controller is part of a shared flow group, follow the instructions in the User Manual to perform the following tasks on the controller:

- Assign and configure the zones.
- Assign and configure the master valves, flow meters, and booster pumps.
- Set up the programs and their start/stop/pause conditions.
- Set up the water sources, mainlines, and control points.
- Assign devices to the control points.

To configure the controller for shared flow, perform the following tasks described in this User Manual:

- Connect the BaseStation 3200 to the FlowStation (refer to Connecting a BaseStation 3200 Controller to the FlowStation on page 4).
- Turn over control of the water sources, mainlines, and control points to the FlowStation (refer to Enabling Shared Flow for Water on the BaseStation 3200 below).

When the BaseStation 3200 configuration is complete and a start condition is met for a program that is assigned to the FlowStation, the controller asks the FlowStation for water. After the FlowStation allocates the water, the program will start. After the resources are “shared” they can no longer be used directly by the controller. The FlowStation will decide when these resources are used.

Enabling Shared Flow for Water on the BaseStation 3200

Note: You can also assign water sources, control points, and mainlines on the FlowStation. Refer to the topics under Assigning the Shared Flow Components on page 14.

1. On the BaseStation 3200 irrigation controller, turn the dial to the **Flow** position.
2. Press the **Next** button to highlight the **Manage by FlowStation** option.
3. Press the **Enter** button. The FlowStation screen displays.
4. In the left column, press the **+** or **-** button to select a water source, control point, or mainline that you want to assign to the FlowStation.
5. Press the **Next** button to move to the **Manage by FlowStation** column.
6. Press the **+** or **-** button to display **YES** in the **Manage by FlowStation** column.
7. Repeat steps 4 – 6 to assign all water sources, control points, or mainlines on this controller that you want to be managed by the FlowStation.
8. Perform steps 1 – 6 on each BaseStation 3200 irrigation controller that will be sharing flow.

| FlowStation | Flow |
|----------------|-----------------------|
| Water Sources | Manage by FlowStation |
| Control Points | |
| Mainlines | |
| - | - |
| - | - |
| WS1 | YES |
| WS2 | YES |
| WS3 | NO |
| WS4 | NO |
| {Well} | |
| | Help |

Performance Considerations

When a BaseStation 3200 is part of a shared flow group, some controller operations might behave differently than you expect.

Manual Run – When a manual run is started, all programs on that mainline will be paused while the manual run is in progress. If you have multiple controllers in the shared flow group assigned to the same mainline, the programs on all controllers will be paused.

Learn Flow – When a learn flow is started, all programs on that mainline will be paused while the learn flow operation is in progress. If you have multiple controllers in the shared flow group assigned to the same mainline, the programs on all controllers will be paused.

Water Rationing – When you turn over control of a control point to the FlowStation, you cannot set intelligent water rationing on the BaseStation 3200 for that control point.

Program Priorities – The priority (1 -99) assigned to a program on the BaseStation 3200 indicates the order in which the controller will ask the FlowStation for water to start the program.

BaseManager – If your BaseStation 3200 shared flow controller is connected to BaseManager, you can view all controller statuses in BaseManager. You can also initiate manual runs on zones and programs from BaseManager.

Note: You can add FlowStation markers to the Site level map in BaseManager. You must use the FlowStation application in AppManager to remotely control the FlowStation.

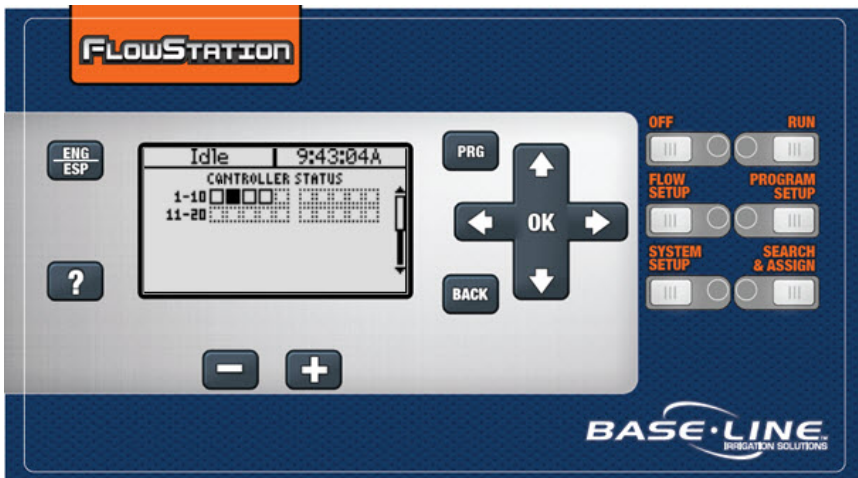
FlowStation Application – If your FlowStation is connected to the FlowStation application in AppManager, you can update your hydraulic system layout in this interface. You can add or update settings for your water sources, control points, and mainlines. You can also use PipeView to get a real-time view of your hydraulic system with color-coded status indicators and clickable icons that open the flow activity reports.

4 – Configuring the FlowStation

Understanding the FlowStation Interface

Review this section to get familiar with the layout of the FlowStation interface. This information covers the components of the front panel, the On-Screen Help, the features of the main screen, as well as the status icons.

FlowStation Front Panel Layout



Display – The display shows the current state of the FlowStation and is used to program the FlowStation. Refer to Setting Up the Screen Display on page 34 for information about improving image quality in outdoor conditions including direct sunlight and low light.

Main Menu Buttons – The buttons are used to select the various operating or programming menus of the FlowStation. An indicator light glows on the button for the menu that is active.

Buttons – The buttons are used to select programming elements, change their values, and initiate operations.

? Display help for any screen

+ Increase the value of the highlighted field, or sequence through the available options in the selected field

- Decrease the value of the selected field, or sequence through the available options in the selected field
- PRG** Select the controller that you want to modify
- Arrow Buttons** Move within a screen
 ↑↓←→
- OK** Select an option or perform an action
- BACK** Return to a previous screen or cancel an action

On-Screen Help

Press the ? button at any time to display the On-Screen Help. When the help displays, press the ↓ button to scroll through the text, and when you have finished using the help, press the ? button or the **BACK** button to return to the previous screen.

Restarting the FlowStation

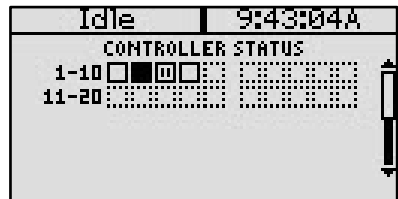
If the FlowStation goes into an abnormal state and does not respond, you might need to restart it. Typically, we recommend that you call Baseline Support (866.294.5847) before you restart the FlowStation.

1. Press the **OFF** button.
2. Press and hold the **ENG/ESP** and ? buttons for approximately 5 seconds.
3. After the screen goes blank, release the buttons. The FlowStation restarts automatically.

Viewing the Controller Status Report

When the FlowStation is in the RUN menu, the Controller Status report typically displays on the screen.











If you do not see “CONTROLLER STATUS” and the controller grid, press the RUN button to make sure that the controller is in the RUN menu, and then press the BACK button to display the Status Report menu. Select the Controller Status option from the menu.



Note: For information about the additional Controller Status details, refer to Viewing Additional Controller Status Details on page 44. Other status reports are described in the Status Reports and Messages section on page 43.

Understanding Controller Statuses

The following icons identify the status of the controllers in the shared flow group:

| Icon | Status | Description |
|---|--------------------------|--|
|  | Unassigned | No controller is assigned |
|  | Done | The complete cycle has finished for this controller – including watering and soaking |
|  | Rain Delay | A rain delay is active for this controller |
|  | Rain Jumper | The rain jumper switch is triggered on this controller |
|  | Off | The dial is set to OFF on this controller |
|  | Running | Watering is in progress |
|  | Paused | A pause condition is in effect |
|  | Disabled or Disconnected | The controller is marked as being disabled or disconnected from the FlowStation |
|  | Error | There is a message associated with this controller |
|  | Flow Fault | The flow jumper on the controller reports a flow fault. This flow fault must be cleared at the controller. |

Understanding the Flow Components

The FlowStation and the BaseStation 3200 irrigation controller have the following flow components that enable you to model your hydraulic system.

- Water source
- Control point
- Mainline

Before you begin setting up the flow components and building your hydraulic system model in the BaseStation 3200, make sure you understand the terminology and the requirements.

Water Source

- A water source identifies where water is coming from.
- A BaseStation 3200 irrigation controller supports up to 8 water sources.
- A FlowStation supports up to 20 water sources.

- Each water source can be connected to a single control point.
- When a water source is managed by the FlowStation, it is known as a “shared” water source.
- When a water source is managed by the BaseStation 3200 irrigation controller, it is known as a “local” water source.

Control Point

- A control point (CP) is a hydraulic component in Baseline controllers that collects data from assigned devices, and then enables the irrigation system to act on that data.
- A BaseStation 3200 supports up to 8 control points.
- A FlowStation supports up to 20 control points.
- Each control point can have a:
 - Flow sensor/meter with an appropriate k-value to read and record both the flow usage and rate.
 - Pump that can be used to control the flow of water through the control point.
 - The main difference between a pump and a master valve is that a master valve supplies 24VAC to a solenoid to open a valve and a pump uses a pump start relay to start a pump.
 - The master valve will report open or shorted solenoids where the pump will not.
 - Master valve (either normally open or normally closed) that can be used to control the flow of water through the control point.
 - Pressure sensor with appropriate 4-20 mA range to read and record the pressure at the control point.
- A control point can be connected to a water source. It can also have a “mainline in” and a “mainline out” assignment.
- When a control point is managed by the FlowStation, it is known as a “shared” control point.
- When a control point is managed by the BaseStation 3200 irrigation controller, it is known as a “local” control point.

Mainline

- The mainline is the section of pressurized pipe from the control point to the valve that operates water flow to a zone.
- A BaseStation 3200 supports up to 8 mainlines.
- A FlowStation supports up to 40 mainlines.
- You can create a “mainline to mainline” connection, which enables you to represent a small mainline branching off a larger mainline.
- A zone is assigned to a mainline.
- When a mainline is managed the FlowStation, it is known as a “shared” mainline.
- When a mainline is managed by the BaseStation 3200 irrigation controller, it is known as a “local” mainline.

Assigning the Shared Flow Components

When you are setting up a shared flow group, you need to assign the BaseStation 3200 irrigation controllers, their water sources, control points, and mainlines to the FlowStation before you connect the flow components to each other.

Assigning BaseStation 3200 Controllers to the Shared Flow Group

IMPORTANT! You must connect the irrigation controllers to the FlowStation before you can assign them. Refer to Connecting a BaseStation 3200 Controller to the FlowStation on page 4.

1. On the FlowStation, press the **Search & Assign** button. The Assign menu displays.
2. Press the \downarrow button to highlight the **Controllers** option, and then press the **OK** button to select it. The Controller Assignments screen displays. The serial numbers of the irrigation controllers that are connected to the FlowStation display in the Action column.
3. Press the \uparrow or \downarrow button to move through the list of controllers in the **Action** column. Highlight the serial number of the controller that you want to assign to the shared flow group.

| Controller Assignments | |
|------------------------|------------|
| ACTION | CONTROLLER |
| Unassign 1 | |
| 3K000000 | 1-None |
| | 2-None |
| | 3-None |

4. Press the \Rightarrow button to move to the **Controller** column.
5. Press the \uparrow or \downarrow button to move through the list of controller slots. Highlight the number that you want to assign the controller to.
6. Press the **OK** button to assign the selected controller to the highlighted slot number. The serial number of the controller now displays next to the number in the Controller column.

| Controller Assignments | |
|------------------------|------------|
| ACTION | CONTROLLER |
| | 1-3K000000 |
| Unassign 1 | 2-None |
| | 3-None |
| | 4-None |

Note: The next serial number in the Action column is automatically selected. If you want to assign that controller to the shared flow group, press the \uparrow or \downarrow button to move to the next slot number in the Controller column, and then press the OK button.

7. Continue until you have assigned all the controllers that you want to be part of this shared flow group.

Assigning Water Sources

A shared flow group is made up of the FlowStation and up to 20 BaseStation 3200 irrigation controllers and the water sources, control points, and mainlines that belong to those controllers.

Before you can assign a water source to the FlowStation, the BaseStation 3200 irrigation controller that “owns” that water source must be connected to the FlowStation and assigned to the shared flow group. Refer to the following topics for more information:

- Connecting a BaseStation 3200 Controller to the FlowStation on page 4
- Assigning BaseStation 3200 Controllers to the Shared Flow Group on page 14

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the \downarrow button to highlight the **Water Sources** option, and then press the **OK** button to select it. The Water Source screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left corner of the screen.

Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.

| C1 ASPEN PARK | |
|------------------|--------------|
| ACTION | WATER SOURCE |
| Unassign | 1 - C1:W1 |
| W2 \rightarrow | 2 - none |
| W3 | 3 - none |
| W4 | 4 - none |

3. If you want to work with water sources on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.
4. In the **Action** column, press the \uparrow or \downarrow button to move through the list of water sources. Highlight the number of the water source that you want to assign to the shared flow group.
5. Press the \Rightarrow button to move to the **Water Source** column.
6. Press the \uparrow or \downarrow button to move through the list of water source slots. Highlight the number that you want to assign the water source to.
7. Press the **OK** button to complete the assignment. The controller ID number and the water source number now display next to the slot number in the Water Source column.

Note: The next water source in the Action column is automatically selected. If you want to assign that water source to the shared flow group, press the \uparrow or \downarrow button in the Water Source column to move to the next slot number, and then press the OK button.

8. Continue until you have assigned all the necessary water sources to the shared flow group.

Unassigning Water Sources

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the \downarrow button to highlight the **Water Sources** option, and then press the **OK** button to select it. The Water Source screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left corner of the screen.

Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.

3. If you want to work with water sources on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.
4. **Tip:** To move backwards through the controller list, hold down the – button while you press the PRG button.
5. Press the ⇨ button to move to the **Water Source** column.
6. Press the ↑ or ↓ button to highlight the water source that you want to unassign.
7. Press the ⇐ button to move to the **Action** column, and then press the ↑ or ↓ button to highlight the **Unassign** option.
8. Press the **OK** button to unassign the water source. The slot number in the Water Source column now shows None, and the water source ID redisplay in the Action column.

Assigning Control Points

A shared flow group is made up of the FlowStation and up to 20 BaseStation 3200 irrigation controllers and the water sources, control points, and mainlines that belong to those controllers.

Before you can assign a control point to the FlowStation, the BaseStation 3200 irrigation controller that “owns” that control point must be connected to the FlowStation and assigned to the shared flow group. Refer to the following topics for more information:

- Connecting a BaseStation 3200 Controller to the FlowStation on page 4
- Assigning BaseStation 3200 Controllers to the Shared Flow Group on page 14

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the ↓ button to highlight the **Control Points** option, and then press the **OK** button to select it. The Control Point screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left of the screen.

Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.

| C1 ASPEN PARK | |
|---------------|---------------|
| ACTION | CONTROL POINT |
| Unassign | 1 - C1:P1 |
| | 2 - C1:P2 |
| P3 | 3 - none |
| P4 | 4 - none |
| P5 | 5 - none |

3. If you want to work with control points on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.

Tip: To move backwards through the controller list, hold down the – button while you press the PRG button.

4. In the **Action** column, press the ↑ or ↓ button to move through the list of control points. Highlight the number of the control point that you want to assign to the shared flow group.
5. Press the ⇨ button to move to the **Control Point** column.

6. Press the **↑** or **↓** button to move through the list of control point slots. Highlight the number that you want to assign the control point to.
7. Press the **OK** button to complete the assignment. The controller ID number and the control point number now display next to the slot number in the Control Point column.
Note: The next control point in the Action column is automatically selected. If you want to assign that control point to the shared flow group, press the **↑** or **↓** button in the Control Point column to move to the next slot number, and then press the OK button.
8. Continue until you have assigned all the necessary control points to the shared flow group.

Unassigning Control Points

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the **↓** button to highlight the **Control Points** option, and then press the **OK** button to select it. The Control Point screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left of the screen.
Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.
3. If you want to work with control points on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.
Tip: To move backwards through the controller list, hold down the **–** button while you press the PRG button.
4. Press the **⇒** button to move to the **Control Point** column.
5. Press the **↑** or **↓** button to highlight the control point that you want to unassign.
6. Press the **⇐** button to move to the **Action** column, and then press the **↑** or **↓** button to highlight the **Unassign** option.
7. Press the **OK** button to unassign the control point. The slot number in the Control Point column now shows None, and the control point ID redisplay in the Action column.

Assigning Mainlines

A shared flow group is made up of the FlowStation and up to 20 BaseStation 3200 irrigation controllers and the water sources, control points, and mainlines that belong to those controllers.

Before you can assign a mainline to the FlowStation, the BaseStation 3200 irrigation controller that “owns” that mainline must be connected to the FlowStation and assigned to the shared flow group. Refer to the following topics for more information:

- Connecting a BaseStation 3200 Controller to the FlowStation on page 4
- Assigning BaseStation 3200 Controllers to the Shared Flow Group on page 14

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the \downarrow button to highlight the **Mainlines** option, and then press the **OK** button to select it. The Mainline screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left of the screen.

Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.

| C1 ASPEN PARK | |
|---------------|-----------|
| ACTION | MAINLINE |
| Unassign | 1 - C1:M1 |
| M2 | 2 - none |
| M3 | 3 - none |
| M4 | 4 - none |

3. If you want to work with mainlines on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.

Tip: To move backwards through the controller list, hold down the – button while you press the PRG button.
4. In the **Action** column, press the \uparrow or \downarrow button to move through the list of mainlines. Highlight the number of the mainline that you want to assign to the shared flow group.
5. Press the \Rightarrow button to move to the **Mainline** column.
6. Press the \uparrow or \downarrow button to move through the list of mainline slots. Highlight the number that you want to assign the mainline to.
7. Press the **OK** button to complete the assignment. The controller ID number and the mainline number now display next to the slot number in the Mainline column.

Note: The next mainline in the Action column is automatically selected. If you want to assign that mainline to the shared flow group, press the \uparrow or \downarrow button in the Mainline column to move to the next slot number, and then press the OK button.
8. Continue until you have assigned all the necessary water sources to the shared flow group.

Unassigning Mainlines

1. On the FlowStation, press the **Search & Assign** button. The Search & Assign menu displays.
2. Press the \downarrow button to highlight the **Mainlines** option, and then press the **OK** button to select it. The Mainline screen displays. The ID number of the active shared flow irrigation controller is shown in the upper-left of the screen.

Note: If you have given the shared flow irrigation controller a name in BaseManager, that name displays next to the controller ID number.

3. If you want to work with mainlines on the currently displayed controller, skip to step 4; otherwise, press the **PRG** button to select a different shared flow controller.

Tip: To move backwards through the controller list, hold down the – button while you press the PRG button.
4. Press the \Rightarrow button to move to the **Mainline** column.
5. Press the \uparrow or \downarrow button to highlight the mainline that you want to unassign.
6. Press the \Leftarrow button to move to the **Action** column, and then press the \uparrow or \downarrow button to highlight the **Unassign** option.

- Press the **OK** button to unassign the mainline. The slot number in the Mainline column now shows None, and the mainline ID redisplay in the Action column.

Setting Up the Flow Components

The FlowStation and the BaseStation 3200 have the following flow components that enable you to model your hydraulic system within the FlowStation and the controller.

- Water source
- Control point
- Mainline

If you set up your flow components and model your hydraulic system on the BaseStation 3200, the settings and connections will be copied to the FlowStation. Also, if you make changes to the settings and/or connections on the FlowStation, those changes will be copied to the BaseStation 3200.

Setting Up a Water Source

A water source identifies where water is coming from. Each BaseStation 3200 irrigation controller supports up to 8 water sources, and a FlowStation supports a total of 20 water sources. On the FlowStation, water sources are labeled with the controller ID number and a sequential water source number. If you have access to BaseManager or the FlowStation application in AppManager, you can give the water source a name that will help identify it.

Note: If you have access to the FlowStation application in AppManager, you can remotely set up a water source.

- On the FlowStation, press the **Flow Setup** button. The Flow Setup menu displays.
- The **Water Source Setup** option should be highlighted. If it isn't, press the **↑** or **↓** button to move to the **Water Source Setup** option, and then press the **OK** button.
- On the **Water Source Setup** menu, select one of the following options, and then refer to the instructions for setting up the option in the following sections:
 - Basic Settings
 - Monthly Budget
 - Empty Condition

To configure the basic settings for a water source

- In the **Water Source Setup** menu, the **Basic Settings** option should be highlighted. If it isn't, press the **↓** button to move to the **Basic Settings** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the water source is shown in the upper-left corner.

Note: If you have given the water source a name in BaseManager, that name displays next to the controller ID and water source number.

- If you want to work with the currently displayed water source, skip to step c; otherwise, press the **PRG** button to select a different water source.

Tip: To move backwards through the water source list, hold down the – button while you press the PRG button.

- c. In the **Enabled** field, press the **OK** button to set or remove the check mark. If you want to use this water source, make sure there is a check mark in the field.
- d. Press the ↓ button to move to **Flow Station Managed** field. Press the **OK** button to set or remove the check mark. If you want the FlowStation to manage this water source, make sure there is a check mark in the field.
- e. Press the ↓ button to move to **Priority** field. Press the + or – button to change the value in the field to a number between 1 and 10 where 1 is the highest priority. When an irrigation system has more than one water source with different priorities, water from the source with the highest priority is used first until the monthly budget limit is reached. Then the system switches to the water source with the next highest priority.
- f. Press the **Back** button to return to the Water Source Setup menu.

To set up the monthly budget for a water source

- a. In the **Water Source Setup** menu, press the ↓ button to move to the **Monthly Budget** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the water source is shown in the upper-left corner.

Note: If you have given the water source a name in BaseManager, that name displays next to the controller ID and water source number.

- b. If you want to work with the currently displayed water source, skip to step c; otherwise, press the **PRG** button to select a different water source.

Tip: To move backwards through the water source list, hold down the – button while you press the PRG button.

- c. In the **Enabled** field, press the **OK** button to set or remove the check mark. If you want to use this water source, make sure there is a check mark in the field.
- d. In the **Budget Value gal** field, press the + or – button to change the value in the field to show the number of gallons that can be used from this water source during a month.

Note: When the value in the Budget Value gal field is greater than zero, the system monitors the total water used during a single month. If the monthly water used exceeds this number, an alert is generated. If you enable the Shutdown field, then the water is stopped until the first of the next month.

- e. Press the ↓ button to move to the **With Shutdown** field. Press the **OK** button to set or remove the check mark. If you want the water source to shut down when the monthly budget amount has been exceeded, make sure there is a check mark in the field.
- f. Press the **Back** button to return to the Water Source Setup menu.

To set up a water source empty condition

- a. In the **Water Source Setup** menu, press the ↓ button to move to the **Empty Condition** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the water source is shown in the upper-left corner.

Note: If you have given the water source a name in BaseManager, that name displays next to the controller ID and water source number.

- b. If you want to work with the currently displayed water source, skip to step c; otherwise, press the **PRG** button to select a different water source.
Tip: To move backwards through the water source list, hold down the – button while you press the PRG button.
- c. In the **Condition** field, press the + or – button to select one of the following options:
 - **Disabled** – the empty condition is not set up for this water source.
 - **Moisture** – the empty condition is being monitored by a moisture sensor.
 - **Event Switch** – the empty condition is being monitored by a device with open/closed contacts.
 - **Pressure** – the empty condition is being monitored by a pressure sensor.
- d. Press the ↓ button to move to the next field, which varies depending on the selected device, and then press the + or – button to set the value for the empty condition.
- e. Press the ↓ button to move to the **Enabled** field. Press the **OK** button to set or remove the check mark. If you want the water source to shut down when the empty condition is active, make sure there is a check mark in the field.

Setting Up a Control Point

A control point (CP) is a hydraulic component in Baseline controllers that collects data from assigned devices, and then enables the irrigation system to act on that data. Each BaseStation 3200 supports up to 8 control points, and a FlowStation supports a total of 20 control points. On the FlowStation, control points are labeled with the controller ID number and a sequential control point number. If you have access to BaseManager or the FlowStation application in AppManager, you can give the control point a name that will help identify it.

Note: If you have access to the FlowStation application in AppManager, you can remotely set up a control point.

1. On the FlowStation, press the **Flow Setup** button. The Flow Setup menu displays.
2. Press the ↓ button to move to the **Control Point Setup** option, and then press the **OK** button.
3. On the **Control Point Setup** menu, select one of the following options, and then refer to instructions for setting up the option in the following sections:
 - Basic Settings
 - Flow Limits
 - Pressure Limits

To configure the basic settings for a control point

- a. In the **Control Point Setup** menu, the **Basic Settings** option should be highlighted. If it isn't, press the ↓ button to move to the **Basic Settings** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the control point is shown in the upper-left corner.

Note: If you have given the control point a name in BaseManager, that name displays next to the controller ID and control point number.

- b. If you want to work with the currently displayed control point, skip to step c; otherwise, press the **PRG** button to select a different control point.
Tip: To move backwards through the control point list, hold down the – button while you press the PRG button.
- c. In the **Enabled** field, press the **OK** button to set or remove the check mark. If you want to use this control point, make sure there is a check mark in the field.
- d. Press the ↓ button to move to **Flow Station Managed** field. Press the **OK** button to set or remove the check mark. If you want the FlowStation to manage this control point, make sure there is a check mark in the field.
- e. Press the ↓ button to move to **Design Flow gpm** field. Press the + or – button to change the value in the field to the specified gallons per minute (GPM) for the water running through the flow device to the connected mainline.
- f. Press the ↓ button to move to **Control Point Group** field. Press the + or – button to enter a number in the field that represents the group. For example, if you enter the number 1 in the Control Point Group field for control point 1 and do the same for control point 2, these control points will be in group #1.

When you put control points into a group, the maximum flow is determined by the control point with the largest design flow. When water is requested, the control point with design flow GPM closest to the requested amount will run. All other control points in the group remain off.
- g. Press the **Back** button to return to the Control Point Setup menu.

To set up the flow limits for a control point

- a. In the **Control Point Setup** menu, press the ↓ button to move to the **Flow Limits** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the control point is shown in the upper-left corner.
Note: If you have given the control point a name in BaseManager, that name displays next to the controller ID and control point number.
- b. If you want to work with the currently displayed control point, skip to step c; otherwise, press the **PRG** button to select a different control point.
Tip: To move backwards through the control point list, hold down the – button while you press the PRG button.
- c. In the **Max Flow gpm** field, press the + or – button to change the value in the field to the maximum gallons per minute flow that is allowed through this control point.
Note: The system uses the GPM value in this field as a critical limit. When this value is greater than zero, the system compares the limit against the measured reading from the flow device every minute. If the flow rate reading exceeds the limit for 3 or 4 minutes in a row, the system generates an alert.

- d. Press the **↓** button to move to the **With Shutdown** field. Press the **OK** button to set or remove the check mark. If you want the zones (valves) assigned to this control point's mainline to be stopped and corresponding master valves (MVs) shut off when the flow rate exceeds the limit, make sure there is a check mark in the field.
- e. Press the **↓** button to move to the **Max Unsch gpm** field. Press the **+** or **-** button to change the value in the field to the maximum gallons per minute of unscheduled flow that is allowed through this control point.
Note: When this limit is set to greater than zero, the system monitors the flow 24x7 for any flow that does not correspond to running programs. If the flow exceeds the limit for several minutes, the system generates an alert.
- f. Press the **↓** button to move to the **With Shutdown** field. Press the **OK** button to set or remove the check mark. If you want the zones (valves) assigned to this control point's mainline to be stopped and corresponding master valves (MVs) shut off when the unscheduled flow rate exceeds the limit, make sure there is a check mark in the field.
- g. Press the **↓** button to move to the **Ignore Unsch Flow** field. Press the **OK** button to set or remove the check mark. If you want the system to ignore flow that is off schedule in order to allow water use from manual taps or hose bibs, make sure there is a check mark in the field.
- h. Press the **Back** button to return to the Control Point Setup menu.

To set up pressure limits for a control point

If you have a pressure sensor and pressure biCoder associated with this control point, you can set operating limits based on pressure readings.

- a. In the **Control Point Setup** menu, press the **↓** button to move to the **Pressure Limits** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the control point is shown in the upper-left corner.
Note: If you have given the control point a name in BaseManager, that name displays next to the controller ID and control point number.
- b. If you want to work with the currently displayed control point, skip to step c; otherwise, press the **PRG** button to select a different control point.
Tip: To move backwards through the control point list, hold down the **-** button while you press the **PRG** button.
- c. In the **Max Pressure psi** field, press the **+** or **-** button to change the value in the field to the maximum amount of pressure in PSI.
- d. Press the **↓** button to move to the **With Shutdown** field. Press the **OK** button to set or remove the check mark. If you want the zones (valves) assigned to this control point's mainline to be stopped and corresponding master valves (MVs) shut off when the pressure exceeds the limit, make sure there is a check mark in the field.
- e. Press the **↓** button to move to the **Min Pressure psi** field. Press the **+** or **-** button to change the value in the field to the minimum amount of pressure in PSI.

- f. Press the **↓** button to move to the **With Shutdown** field. Press the **OK** button to set or remove the check mark. If you want the zones (valves) assigned to this control point's mainline to be stopped and corresponding master valves (MVs) shut off when the pressure falls below the limit, make sure there is a check mark in the field.
- g. Press the **Back** button to return to the Control Point Setup menu.

Setting Up a Mainline

The mainline is the section of pressurized pipe from the control point to the valve that operates water flow to a zone. Each BaseStation 3200 supports up to 8 mainlines, and a FlowStation supports a total of 40 mainlines. On the FlowStation, mainlines are labeled with the controller ID number and a sequential mainline number. If you have access to BaseManager or the FlowStation application in AppManager, you can give the mainline a name that will help identify it.

Note: If you have access to the FlowStation application in AppManager, you can remotely set up a mainline.

1. On the FlowStation, press the **Flow Setup** button. The Flow Setup menu displays.
2. Press the **↓** button to move to the **Mainline Setup** option, and then press the **OK** button.
3. On the **Mainline Setup** menu, select one of the following options, and then refer to instructions for setting up the option in the following sections:
 - Basic Settings
 - Flow Stabilization
 - Flow Variance
 - Advanced Flow Variance
 - Delay Before Running

To configure the basic settings for a mainline

- a. In the **Mainline Setup** menu, the **Basic Settings** option should be highlighted. If it isn't, press the **↓** button to move to the **Basic Settings** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the mainline is shown in the upper-left corner.

Note: If you have given the mainline a name in BaseManager, that name displays next to the controller ID and mainline number.
- b. If you want to work with the currently displayed mainline, skip to step c; otherwise, press the **PRG** button to select a different mainline.

Tip: To move backwards through the mainline list, hold down the **–** button while you press the **PRG** button.
- c. In the **Enabled** field, press the **OK** button to set or remove the check mark. If you want to use this mainline, make sure there is a check mark in the field.
- d. Press the **↓** button to move to **Flow Station Managed** field. Press the **OK** button to set or remove the check mark. If you want the FlowStation to manage this mainline, make sure there is a check mark in the field.

- e. Press the **↓** button to move to **Design Flow GPM** field. Press the **+** or **–** button to change the value in the field to specified gallons per minute (GPM) for the water running through the flow device to this mainline.
- f. Press the **↓** button to move to **Priority** field. Press the **+** or **–** button to set a value between 1 and 10 to indicate the priority in which the water from this mainline should be used.
- g. Press the **Back** button to return to the Mainline Setup menu.

To set up flow stabilization for a mainline

In order to operate flow stabilization based on pressure, a pressure sensor must be assigned to the control point that this mainline is connected to.

- a. In the **Mainline Setup** menu, press the **↓** button to move to the **Flow Stabilization** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the mainline is shown in the upper-left corner.
Note: If you have given the mainline a name in BaseManager, that name displays next to the controller ID and mainline number.
- b. If you want to work with the currently displayed mainline, skip to step c; otherwise, press the **PRG** button to select a different mainline.
Tip: To move backwards through the mainline list, hold down the **–** button while you press the **PRG** button.
- c. In the **Stabilization min** field, press the **+** or **–** button to change the value to the number of minutes that it takes to fill the pipe and achieve a steady flow rate after a valve change.
- d. Press the **↓** button to move to the **Enabled** field, and then press the **OK** button to set or remove the check mark. If you want to use time to stabilize the flow on this mainline, make sure there is a check mark in the field.
- e. Press the **↓** button to move to the **Stabilization psi** field. Press the **+** or **–** button to change the value to the amount of pressure that it takes to fill the pipe and achieve a steady flow rate after a valve change.
- f. Press the **↓** button to move to the **Enabled** field, and then press the **OK** button to set or remove the check mark. If you want to use pressure to stabilize the flow on this mainline, make sure there is a check mark in the field.
- g. Press the **Back** button to return to the Mainline Setup menu.

To set up flow variance for a mainline

Flow variance is the actual flow compared to the expected flow. Both above and below expected flow conditions can be detected and then acted upon.

- a. In the **Mainline Setup** menu, press the **↓** button to move to the **Flow Variance** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the mainline is shown in the upper-left corner.
Note: If you have given the mainline a name in BaseManager, that name displays next to the controller ID and mainline number.

- b. If you want to work with the currently displayed mainline, skip to step c; otherwise, press the **PRG** button to select a different mainline.
Tip: To move backwards through the mainline list, hold down the – button while you press the PRG button.
- c. In the **Max Flow Variance** field, press the + or – button to set the percentage for the allowable variance.
- d. Press the ↓ button to move to the **Basic Flow Variance** field, and then press the **OK** button to set or remove the check mark. If you want basic flow variance to be enabled on this mainline, make sure there is a check mark in the field.
- e. Press the **Back** button to return to the Mainline Setup menu.

To set up advanced flow variance for a mainline

Advanced flow variance enables you to set above and below variance percentages for GPM ranges. Depending on your settings, the controller monitors the flow within the range and shuts down the mainline if the measured variance is above/below the set percentage limit.

- a. In the **Mainline Setup** menu, press the ↓ button to move to the **Adv Flow Variance** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the mainline is shown in the upper-left corner.
Note: If you have given the mainline a name in BaseManager, that name displays next to the controller ID and mainline number.
- b. If you want to work with the currently displayed mainline, skip to step c; otherwise, press the **PRG** button to select a different mainline.
Tip: To move backwards through the mainline list, hold down the – button while you press the PRG button.
- c. In the **Adv. Flow Variance** field, press the **OK** button to set or remove the check mark. If you want advanced flow variance to be enabled on this mainline, make sure there is a check mark in the field.
- d. Press the ↓ button to move to the first GPM range field. The left column is for the “Above” percentages, and the right column is for the “Below” percentages.
- e. Press the + or – button to set the percentage for the allowable variance.
- f. Press the ⇐ or ⇒ or ↓ button to move to the next GPM range field.
- g. Repeat steps d and e to set the percentages for all of the flow ranges.
- h. Press the ↓ button to move to the Shutdown field, and then perform one or both of the following options:
 - To enable a shutdown when the measured variance is above the set percentage limit, press the + or – button to show a check mark in the left field.
 - To enable a shutdown when the measured variance is below the set percentage limit, press the + or – button to show a check mark in the right field.
- i. Press the **Back** button to return to the Mainline Setup menu.

To set up a delay before/after running zones on a mainline

- a. In the **Mainline Setup** menu, press the \downarrow button to move to the **Delay Before Running** option, and then press the **OK** button. On the settings screen, the ID number of the active shared flow irrigation controller and the mainline is shown in the upper-left corner.
Note: If you have given the mainline a name in BaseManager, that name displays next to the controller ID and mainline number.
- b. If you want to work with the currently displayed mainline, skip to step c; otherwise, press the **PRG** button to select a different mainline.
Tip: To move backwards through the mainline list, hold down the $-$ button while you press the **PRG** button.
- c. In the **Delay First Zone min** field, press the $+$ or $-$ button to set the number of minutes for the delay.
Note: This delay allows time for the master valve or pump to turn on before the first zone turns on.
- d. Press the \downarrow button to move to the **Delay Before Next min** field. Press the $+$ or $-$ button to set the number of minutes for the delay.
Note: This delay allows time between zones and/or a group of zones turning on.
- e. Press the \downarrow button to move to the **Delay After Last min** field. Press the $+$ or $-$ button to set the number of minutes for the delay.
Note: This delay allows time after the last zone has turned off for the master valve or pump to turn off.
- f. Press the \downarrow button to move to the **Number of Zones** field. Press the $+$ or $-$ button to set the number of zones that turn on at once without a delay between them.

Setting Up Dynamic Flow Allocation for the FlowStation

If you enable Dynamic Flow Allocation, the FlowStation evaluates the required GPM when a zone requests water. Then the water is routed through the smallest flow meter that can accommodate that flow. In this way, the system is able to report more accurate flow readings.

1. On the FlowStation, press the **Flow Setup** button. The Flow Setup menu displays.
2. Press the \downarrow button to move to the **FlowStation Setup** option, and then press the **OK** button.
3. In the **Dynamic Flow Allocation** field, press the **OK** button to set or remove the check mark. If you want dynamic flow allocation to be enabled on this FlowStation, make sure there is a check mark in the field.

Setting Up the Hydraulic Layout for Shared Flow

It's useful to refer to an as built drawing or a map of your hydraulic system when you are setting up the layout in the FlowStation.

Connecting a Water Source to a Control Point

A FlowStation supports up to 20 water sources. Each water source must be connected to a single control point.

IMPORTANT! The hydraulic components must be assigned on the FlowStation before you can connect them. Refer to Assigning the Shared Flow Components on page 14.

1. On the FlowStation, press the **Program Setup** button. The Program Setup menu displays.
2. Press the \downarrow button to highlight the **Water Source to CP** option, and then press the **OK** button to select it. The Water Source to CP screen displays. The water sources that you have assigned to the FlowStation display in the

Action column. Each water source is labeled with the controller number and the water source number. The control points that you have assigned to the FlowStation display in the Control Point column. Each control point is labeled with the controller number and the water source number.

| Water Source To CP | |
|--------------------|---------------|
| ACTION | CONTROL POINT |
| Unassign | |
| C1:W1 | C1:W1 C1:P1 |
| C1:W2 | None C1:P2 |
| C1:W4 | |

Examples: C1:W1 Means Water Source #1 on Controller #1
C2:P2 Means Control Point #2 on Controller #2

3. In the **Action** column, press the \downarrow button to highlight the water source that you want to assign to a control point.
4. Press the \Rightarrow button to move to the **Control Point** column, and then press the \downarrow button to select the specific control point.

5. Press the **OK** button to connect the water source to the control point. The assignment is represented in the Control Point column as shown in the illustration on the right.

Example: In the illustration, Water Source #1 on Controller #1 is assigned to Control Point #1 on Controller #1.

| Water Source To CP | |
|--------------------|---------------|
| ACTION | CONTROL POINT |
| Unassign | |
| C1:W1 | C1:W1 C1:P1 |
| C1:W2 | None C1:P2 |

6. If you want to assign other water sources to control points, repeat steps 3 - 5.

Connecting a Control Point to a Mainline

A control point (CP) is a hydraulic component in Baseline controllers that collects data from assigned devices, and then enables the irrigation system to act on that data. A control point must be assigned to a water source. It can also have a “mainline in” and a “mainline out” connection.

In the FlowStation, the CP to Mainline option represents the “mainline out” connection.

A mainline can have up to 20 control points assigned to it, but a control point can only be assigned to one mainline.

IMPORTANT! The hydraulic components must be assigned on the FlowStation before you can connect them. Refer to Assigning the Shared Flow Components on page 14.

1. On the FlowStation, press the **Program Setup** button. The Program Setup menu displays.
2. Press the \downarrow button to highlight the **CP to Mainline** option, and then press the **OK** button to select it. The CP to Mainline screen displays. The control points that you have assigned to the FlowStation display in the Control Point column. Each control point is labeled with the controller number and the control point number. The mainlines that you have assigned to the FlowStation display in the Mainline column. Each mainline is labeled with the controller number and the mainline number.

| CP To Mainline | |
|----------------|---------------------|
| CONTROL POINT | MAINLINE |
| C1:P1 | ► Unassign C1:M1 |
| C1:P2 | ◀ C1:M2 |

Examples: C1:P1 Means Control Point #1 on Controller #1
 C2:M2 Means Mainline #2 on Controller #2

3. In the **Control Point** column, press the \downarrow button to highlight the control point that you want to assign to a mainline.
4. Press the \Rightarrow button to move to the **Mainline** column, and then press the \downarrow button to select the specific mainline.
5. Press the **OK** button to connect the control point to the mainline. The connections display in the Control Point column.

Example: C1:P1 ► C1:M1 Means that Control Point #1 on Controller #1 is connected to Mainline #1 on Controller #1

| CP To Mainline | |
|----------------|---------------------|
| CONTROL POINT | MAINLINE |
| C1:P1 | ► Unassign C1:M1 |
| C1:P2 | C1:M1 C1:M2 |

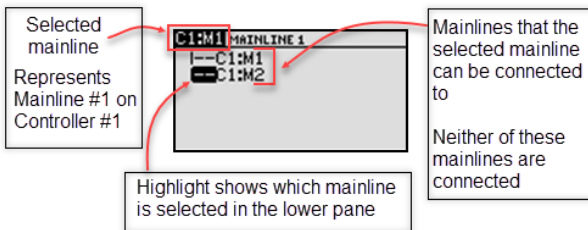
6. If you want to assign other control points to mainlines, repeat steps 3 - 5.

Connecting a Mainline to a Mainline

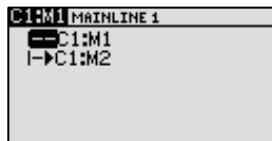
If your hydraulic system has a small mainline branching off a larger mainline, you can set up the hydraulic layout in the FlowStation to represent your actual system by connecting a mainline to a mainline.

IMPORTANT! The hydraulic components must be assigned on the FlowStation before you can connect them. Refer to Assigning the Shared Flow Components on page 14.

1. On the FlowStation, press the **Program Setup** button. The Program Setup menu displays.
2. Press the **↓** button to highlight the **Mainline to Mainline** option, and then press the **OK** button to select it. The selected mainline displays in the upper-left corner of the screen. The mainlines that you have assigned in the FlowStation display in the lower pane.



3. If you want to work with the currently selected mainline, skip to step 4; otherwise, press the **PRG** button to select a different mainline.
4. Press the **↑** or **↓** button to highlight the mainline in the lower pane that you want to connect to the selected mainline.
5. Press the **OK** button. An arrow displays in front of the connected mainline in the lower pane. In the illustration below, Mainline #1 on Controller #1 is connected to Mainline #2 on Controller #1.



Connecting a Mainline to a Control Point

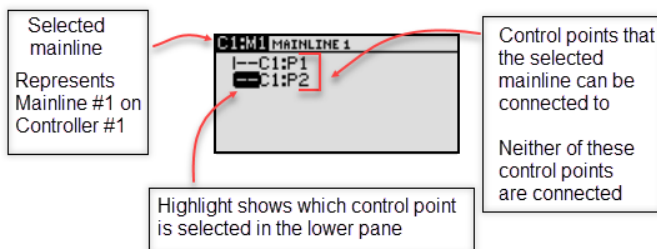
A control point (CP) is a hydraulic component in Baseline controllers that collects data from assigned devices, and then enables the irrigation system to act on that data. A control point must be assigned to a water source. It can also have a “mainline in” and a “mainline out” connection.

In the FlowStation, the Mainline to CP option represents the “mainline in” connection.

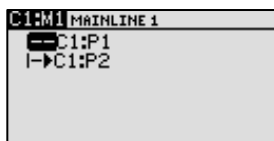
A mainline can have up to 20 control points assigned to it, but a control point can only be assigned to one mainline.

IMPORTANT! The hydraulic components must be assigned on the FlowStation before you can connect them. Refer to Assigning the Shared Flow Components on page 14.

1. On the FlowStation, press the **Program Setup** button. The Program Setup menu displays.
2. Press the \downarrow button to highlight the **Mainline to CP** option, and then press the **OK** button to select it. The selected mainline displays in the upper-left corner of the screen. The control points that you have assigned in the FlowStation display in the lower pane.



3. If you want to work with the currently selected mainline, skip to step 4; otherwise, press the **PRG** button to select a different mainline.
4. Press the \uparrow or \downarrow button to highlight the control point in the lower pane that you want to connect to the selected mainline.
5. Press the **OK** button. The screen displays an arrow in front of the connected control point. In the illustration below, Mainline #1 on Controller #1 is connected to Control Point #2 on Controller #1.



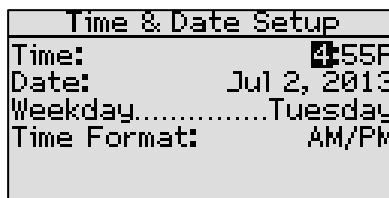
FlowStation System Setup

Setting the FlowStation Time and Date

Set or change the FlowStation time and date to match the current time and date.

WARNING! Changing the time and date can cause watering events to be missed.

1. Press the **System Setup** button. The System Maintenance menu displays.
2. The **Time & Date Setup** option should be highlighted. If it is not highlighted, press the \uparrow or \downarrow button to highlight it, and then press the **OK** button. The Time & Date Setup screen displays.
3. In the **Time** field, notice that the hours placeholder is highlighted.
 - To change the time, press the + or – button.



- To move to the minutes placeholder, press the ⇨ button.
4. Press the ↓ button to move to the **Date** field.
 - Press the ⇐ or ⇨ button to move to the date field that you want to change.
 - Press the + or – button to change the value in the field.

Note: The Weekday field is automatically filled in based on the date that was entered.
 5. Press the ↓ button to move to the **Time Format** field, and then press the + or – button to change the value in the field. This field enables you to switch the time format between AM/PM and 24 hour settings.

Example:

| | |
|-------------------|-------------------|
| In AM/PM format | 10:00A and 10:00P |
| In 24 hour format | 10:00 and 22:00 |
 6. When you have finished making changes, press the **RUN** button.

Setting Up a Static IP Address on the FlowStation

In order to have the FlowStation communicate with the BaseStation 3200 controllers in the shared flow group, the FlowStation must be connected to a network with a supported communication module. You need to assign a static IP address to the FlowStation to enable the BaseStation 3200 irrigation controllers in the shared flow group to connect to the FlowStation.

1. Make sure the communication module in your FlowStation is powered up and communicating with the network.
2. On the FlowStation, press the **System Setup** button. The System Setup menu displays.
3. Press the ↓ button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
4. The **IP Setup** option should be highlighted. If it is not highlighted, press the ↑ or ↓ button to highlight it, and then press the **OK** button. The IP Setup screen displays.
5. Press the + or – button to remove the checkmark in the **DHCP Enabled** field. The fields for the network settings display.

Note: For an explanation of the settings, refer to Viewing the IP Information Screen on the FlowStation on page 33.
6. Determine the static IP address that you will assign to the FlowStation. The IP address is based on the IP addresses of the other devices on the network, but **it must have a unique last digit.**



Example: The devices in your shared flow group are connected to a stand-alone network that does not have Internet access. The communication modules in your FlowStation and controllers have factory-assigned IP addresses in the range 192.168.111.100 - 192.168.111.105. You can set the static IP address on the FlowStation to 192.168.111.106.

7. Press the **↓** button to highlight the first digits in the **IP Addr** field.
 - Press the **←** or **→** button to move to the digits that you want to change.
 - Press the **+** or **-** button to change the value in the field.

Note: To rapidly increase or decrease the value, press and hold the **+** button or the **-** button.
8. Press the **↓** button to move to the **Mask** field. Use the procedure described in step 7 to move within the digits and change the values. A typical value for the Subnet Mask is 255.255.255.0

Note: Set the Subnet Mask for all devices in your shared flow group to the same value.
9. Press the **↓** button to move to the **Gateway** field. Use the procedure described in step 7 to move within the digits and change the values.

Example: For the IP addresses in the example for step 6, the value for the Default Gateway would be 192.168.111.1.

Note: Set the Default Gateway for all devices in your shared flow group to the same value.
10. Press the **↓** button to move to the **DNS 1** field. Use the procedure described in step 7 to move within the digits and change the values to match the Gateway setting.
11. Leave the **DNS 2** field set to zeros.

Viewing the IP Information Screen on the FlowStation

The IP Information screen shows how the network settings on the FlowStation are configured. You cannot change any of the IP information on this screen, but you might need to refer to it in order to complete your connection or to troubleshoot it.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
3. Press the **↓** button to highlight the **IP Info** option, and then press the **OK** button to select it. The IP Info screen displays the following information:

| IP Info | |
|----------------|---------------|
| STATUS..... | CONNECTED |
| INTERFACE..... | ETHERNET |
| IP ADDR..... | |
| MASK..... | 255.255.255.0 |
| GATEWAY..... | |
| DNS 1..... | |
| DNS 2..... | 0.0.0.0 |
| MAC..... | 5410E1C2A50 |

- **Status** – Indicates whether the FlowStation is connected to the network.
- **Interface** – Shows what type of communication module is being used to connect the FlowStation to the network.
- **IP Addr** – An Internet Protocol address (IP address) is a number that identifies a device (such as the FlowStation) on a network.
- **Mask** – The subnet mask is used with an IP address to indicate what network traffic should be permitted or denied.
- **Gateway** – An IP address that enables the network traffic from your FlowStation to pass through to a larger network.
- **DNS 1** – A naming system (Domain Name System) for devices, such as your FlowStation, that are connected to the network.

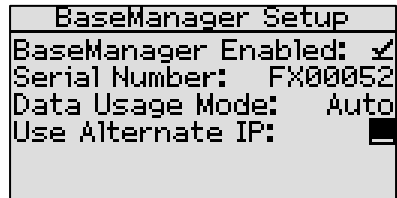
- **DNS 2** – An additional domain name that is assigned to your FlowStation.
- **MAC** – The Media Access Control address (MAC address) is a unique identifier for your FlowStation’s network connection.

Enabling the AppManager Connection

AppManager™ is Baseline’s central control framework that gives you access to powerful site management applications. When your FlowStation is connected to AppManager, you have the ability to see the shared hydraulic configuration in PipeView and to manage it remotely in the FlowStation App (with a paid subscription).

Note: The FlowStation option for connecting to AppManager is “BaseManager Setup.” In a future release, the BaseManager terminology will be replaced with AppManager.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the ↓ button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
3. Press the ↓ button to highlight the **BaseManager Setup** option, and then press the **OK** button to select it. The BaseManager Setup screen displays.
4. Press the + or – button to change the value in the **BaseManager Enabled** field.



- If AppManager is currently enabled, a **checkmark displays** in the Enabled field. Press the + or – button to remove the checkmark.
- If AppManager is currently disabled, **there is no checkmark** in the Enabled field. Press the + or – button to replace the checkmark.

5. Continue to the Connecting to AppManager procedure on page 35.

Using an Alternate IP Address to Connect to AppManager

If your organization is hosting a Baseline server, you will use a customized IP address to connect to AppManager.

Note: The FlowStation option for connecting the AppManager is “BaseManager Setup.” In a future release, the BaseManager terminology will be replaced with AppManager.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the ↓ button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
3. Press the ↓ button to highlight the **BaseManager Setup** option, and then press the **OK** button to select it. The BaseManager Setup screen displays.

4. Press the + or – button to change the value in the **BaseManager Enabled** field.
 - If AppManager is currently enabled, a **checkmark displays** in the Enabled field. Press the + or – button to remove the checkmark.
 - If AppManager is currently disabled, there is **no checkmark** in the Enabled field. Press the + or – button to replace the checkmark.
- ```

BaseManager Setup
BaseManager Enabled:
Serial Number: FX00052
Data Usage Mode: Auto
Use Alternate IP:
IP Addr: 104.130.159.113

```
5. Press the ↓ button to move to the **Use Alternate IP** field, and then press the + or – button to change the value in the field.
    - If the alternate IP address is currently enabled, a **checkmark displays** in the field. Press the + or – button to remove the checkmark.
    - If the alternate IP address is currently disabled, there is **no checkmark** in the field. Press the + or – button to replace the checkmark.
  6. Press the ↓ button to move to the **IP Address** field (the field displays when Use Alternate IP is enabled). Press the + or – button to change the values in the IP address.
 

**Note:** To rapidly increase or decrease the value, press and hold the + button or the – button.
  7. Connect to the alternate Baseline server by performing the steps in the Connecting the FlowStation to AppManager procedure.

## Connecting the FlowStation to AppManager

AppManager™ is Baseline’s central control framework that gives you access to powerful site management applications. When your FlowStation is connected to AppManager, you have the ability to see the shared hydraulic configuration in PipeView and to manage it remotely in the FlowStation App (with a paid subscription).

**Note:** The FlowStation option for connecting to AppManager is “BaseManager Setup.” In a future release, the BaseManager terminology will be replaced with AppManager.

1. Make sure that the FlowStation is connected to the network. Refer to Viewing the IP Information Screen on page 33. If the FlowStation is not connected, perform one of the following procedures:
  - Enable the DHCP connection by performing the steps in Enabling the AppManager Connection on page 34.
  - Connect the controller with a customized IP address by performing the steps in Using an Alternate IP Address to Connect to AppManager on page 34.

2. Press the **System Setup** button. The System Setup menu displays.
3. Press the **↓** button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
4. Press the **↓** button to highlight the **BaseManager Info** option, and then press the **OK** button to select it. The BaseManager Info screen displays.
5. To connect to AppManager, press the **OK** button. The Status field shows that the controller is connected.

**Note:** When your FlowStation connects to the Baseline server, the server detects the connection and checks for an associated account. If no account is found, the server sends an authorization/registration PIN to your controller. You might see the PIN displayed on the FlowStation’s main screen as illustrated here, but you can also find the PIN on the BaseManager Info screen. You will use the PIN to add your FlowStation to AppManager.

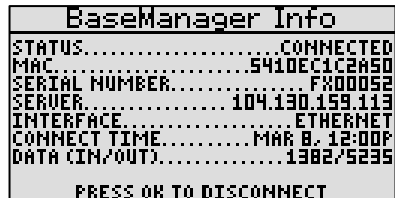


## Viewing AppManager Information

**Note:** The FlowStation option for viewing AppManager information is “BaseManager Info.” In a future release, the BaseManager terminology will be replaced with AppManager.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Network Setup** option, and then press the **OK** button to select it. The Network Setup menu displays.
3. Press the **↓** button to highlight the **BaseManager Info** option, and then press the **OK** button to select it. The BaseManager Info screen displays.
4. Review the following information:

- **Status** – Indicates whether the FlowStation is connected to AppManager
- **MAC** – The Media Access Control address (MAC address) is a unique identifier for your FlowStation.
- **Serial Number** – Your FlowStation’s serial number
- **Server** – If your FlowStation is connected to AppManager, this field shows the IP address of the server that the FlowStation is connected to.



**Note:** You can configure the FlowStation to connect to an alternate Baseline server. Refer to Using an Alternate IP Address to Connect to AppManager on page 34.



## Setting Up the Screen Display

You can adjust the brightness and contrast on the FlowStation display screen to provide better visibility in a variety of lighting conditions and to accommodate a variety of viewing angles. You can also set a time limit for the backlight to be turned off.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Display Setup** option, and then press the **OK** button to select it. The Display Setup screen displays.
3. Press the **+** or **–** button to change the number in the **Screen Contrast** field. A lower number indicates less contrast and a higher number indicates more contrast. To rapidly increase or decrease the value, press and hold the **+** button or the **–** button.
4. When the screen contrast appears to be suitable for the conditions, stop changing the number.
5. Press the **↓** button to move to the **Brightness** field, and then press the **+** or **–** button to change the number.  
**Note:** You cannot increase the value in the Brightness field greater than 100%.
6. Press the **↓** button to move to the **Timeout** field, and then press the **+** or **–** button to change the number. This setting enables you to control how long the display remains illuminated before it goes dark.

## Setting Up Security for the FlowStation

In the FlowStation you can set up the following levels of security access:

- **Admin** – Grants access to all FlowStation functions
- **Programmer** – Grants access to all FlowStation functions except the Security function
- **Operator** – Grants access to the Main screen and the Status Report menu

After you enable the security and set up the personal identification numbers (PINs), restart the FlowStation. Users will be prompted to enter their PIN when they press one of the menu buttons on the FlowStation. If the user does not have access to the menu, he/she will see the message “Invalid PIN.”

**IMPORTANT NOTE!** When a user accesses the FlowStation with a PIN, the FlowStation will maintain that level of access for 1 hour. When that time is up, anyone who tries to use the FlowStation will be prompted to enter a PIN.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Security Setup** option, and then press the **OK** button to select it. The Security Setup screen displays.
3. Press the **+** button to display a checkmark in the **Enabled** field. The PIN fields for the security levels display.



4. Press the **↓** button to highlight the first digit of the Admin PIN, and then press the **+** or **-** button to change the number.
5. Press the **⇒** button to move to the next digit, and then press the **+** or **-** button to change the number. Repeat this step until you have configured all digits of the PIN.
6. Press the **↓** button to highlight the next PIN, and then configure all digits of the PIN. Repeat until you have configured all of the PINs.

## Clearing the Programming on the FlowStation

This function will clear or erase all programming information from the FlowStation. We recommend that you use this function only as directed by Baseline Support.

**IMPORTANT NOTE!** Never clear your programming data without having a current backup available for a restore. Refer to Backing Up the FlowStation Programming on page 38.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Clear Programming** option, and then press the **OK** button to select it. The Clear Programming screen displays.
3. To clear all programming data, press the **+** button.

**Note:** To exit this screen without clearing all programming in the FlowStation, press the **BACK** button.

## Backing Up the FlowStation Programming

The FlowStation provides the following methods for backing up the programming:

- **Backing up to a USB drive** – This method backs up all programming information from the controller to a USB drive (also called a flash drive or a thumb drive). A USB drive is provided for this purpose. We recommend that you use this option if you plan to keep this backup long term. We also recommend that you back up a stable version of your FlowStation's programming to a USB drive on a regular basis.
- **Backing up to BaseManager** – This method backs up all programming information to the BaseManager server. To use this backup option, you must have a BaseManager account.

We recommend that you create a backup before you make significant changes to the programming on your FlowStation. After you verify that the new programming is satisfactory, create a new backup to preserve those changes.

### *To back up the FlowStation programming to a USB drive*

1. Plug the USB drive into the USB port on the FlowStation.
2. Press the **System Setup** button. The System Setup menu displays.
3. Press the **↓** button to highlight the **Backup & Restore** option, and then press the **OK** button to select it. The Backup & Restore screen displays.

- The **USB Backup** option should be highlighted. If it is not highlighted, press the **↓** button to highlight it, and then press the **OK** button to select it. The USB backup screen lists 5 backup slots. If a backup exists, the date and time of the backup will be displayed. If no backup exists, the word "empty" is displayed next the slot number.

| USB Backup |                    |
|------------|--------------------|
| 1:         | Feb 8, 2016 2:42P  |
| 2:         | Mar 9, 2016 1:04P  |
| 3:         | Feb 14, 2017 3:20P |
| 4:         | Feb 15, 2017 3:20P |
| 5:         | Empty              |

- Press the **↓** button to highlight the next empty slot
- Press the **OK** button to back up the programming data to the USB drive under the currently selected location (1-5). The FlowStation writes the data to a folder on the USB drive that is named with the FlowStation's serial number.
- When the FlowStation has finished writing the backup file, unplug the USB drive from the USB port, and then press the **RUN** button.

### *To back up the FlowStation to BaseManager*

- Press the **System Setup** button. The System Setup menu displays.
- Press the **↓** button to highlight the **Backup & Restore** option, and then press the **OK** button to select it. The Backup & Restore screen displays.
- Press the **↓** button to highlight the **BaseManager Backup** option, and then press the **OK** button to select it. The BaseManager Backup screen displays.
- Press the **+** button to back up the programming data to the BaseManager server.

## Restoring the FlowStation Programming

This function restores all programming information in the FlowStation from a backup that you made. We recommend that you use this function only as directed by Baseline Support.

**IMPORTANT NOTE!** Remember that the FlowStation provides multiple methods for backing up the programming. If you backed up your programming to a USB drive, you will restore from that same USB drive. If you backed up to the BaseManager server and you are a registered BaseManager user, you will restore from the BaseManager backup.

### *To restore the FlowStation programming from a USB drive backup*

- Plug the USB drive that has the backup file on it into the USB port on the FlowStation.
- Press the **System Setup** button. The System Setup menu displays.
- Press the **↓** button to highlight the **Backup & Restore** option, and then press the **OK** button to select it. The Backup & Restore screen displays.
- Press the **↓** button to highlight the **USB Restore** option, and then press the **OK** button to select it. The USB restore screen lists 5 restore slots. If a backup exists, the date and time of the backup will be displayed. If no backup exists, the word "empty" is displayed next to the slot number.

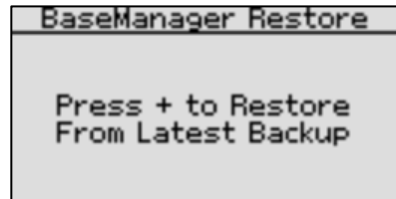
| USB Restore |                    |
|-------------|--------------------|
| 1:          | Feb 8, 2016 2:42P  |
| 2:          | Mar 9, 2016 1:04P  |
| 3:          | Feb 14, 2017 3:20P |
| 4:          | Feb 15, 2017 3:20P |
| 5:          | Empty              |

5. Press the **↓** button to highlight the backup version that you want to use for the restore, and then press the **OK** button to select it. The restore selection screen displays.
10. Perform one of the following options:
  - **Restore Programs Only** — Press the **↓** button to select this option if you want to restore only the programs on your FlowStation.
  - **Restore All** — Press the **↓** button to select this option if you want to restore everything including network settings.
6. When the FlowStation has finished restoring the programming from the backup file, unplug the USB drive from the USB port on the FlowStation, and then press the **RUN** button.

### *To restore the controller programming from a BaseManager backup*

A registered BaseManager user can restore his or her FlowStation from the BaseManager backup that was already created.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **Backup & Restore** option, and then press the **OK** button to select it. The Backup & Restore screen displays.
3. Press the **↓** button to highlight the **BaseManager Restore** option, and then press the **OK** button to select it. The BaseManager Restore screen displays.
4. Press the **+** button to restore the programming data from the backup stored on the BaseManager server.
5. Press the **RUN** button.



## Updating the Firmware on the FlowStation

Firmware updates are free for the life of any FlowStation as long as the hardware is compatible. Baseline will periodically release firmware updates that enhance the usefulness of our products or fix the occasional bug.

You get the firmware update for your FlowStation from the Baseline website with a USB drive. You will need a computer with a USB port. This computer must have access to the Internet. You also need a USB drive. You download the firmware from the Baseline website to the USB drive. Then, you take the USB drive to the FlowStation and install the update.

We recommend that you back up your current configuration before starting this process in case you need to restore your system. Refer to Backing Up the FlowStation Programming on page 38.

**Note:** The following procedure assumes that your computer is running Microsoft Windows.

### *To download the firmware from the Baseline website*

1. Plug a USB drive into a USB port on a computer that is connected to the Internet.
2. In a web browser, go to the Baseline website at the following URL:  
<https://www.baselinesystems.com/>
3. On the home page, click **Support**.
4. In the left navigation bar, click **Firmware Updates**.
5. Click the **FlowStation** tab.
6. Click the button to download the firmware update.
7. When prompted, choose the **Save File** option. The file named FLOW.BIN is saved to your computer's Download directory.
8. Open File Explorer and navigate to your computer's Download directory.
9. Find the file named **FLOW.BIN**. Right-click on it, and then click **Copy**.
10. In the left pane of the File Explorer window, find the USB drive in the list of drives and folders, and then double-click to select it. The list of folders and files on the USB drive displays in the main pane of the File Explorer window.
11. Position the mouse pointer in the main pane of the File Explorer window. Right-click, and then click **Paste**. The FLOW.BIN file is copied to the USB drive.
12. Close the File Explorer window for the USB drive.
13. In the System Tray area of your Windows Desktop, click the option to **Safely Remove Hardware and Eject Media**.
14. When the **Safe to Remove Hardware** message displays, unplug the USB drive from the computer.

### *To update the firmware on the FlowStation*

1. On the FlowStation, plug the USB drive that has the FLOW.BIN file on it into the USB port.
2. Press the **System Setup** button. The System Setup menu displays.
3. Press the ↓ button to highlight the **Firmware Update** option, and then press the **OK** button to select it. The Firmware Update menu displays.
4. The **USB Update** option should be highlighted. If it is not highlighted, press the ↓ button to highlight it, and then press the **OK** button to select it. The USB Update screen displays.
5. The FlowStation reads the contents of the USB drive and displays the update information in the Status field. When the update file is available, the status line reads "Update File is OK."
6. Press the + button to apply the update. When the update is complete, the FlowStation restarts and briefly displays the new firmware version.
7. Unplug the USB drive from the port on the FlowStation.



## Exporting Data from the FlowStation

The FlowStation keeps a record of all changes made to the FlowStation and all actions that occur on the FlowStation. Because these logs are stored in the FlowStation's internal memory, they are somewhat limited in scope, but they can still prove useful for tracking configuration changes or program start/stop times.

1. Plug a USB drive into the USB port on the FlowStation.
2. Press the **System Setup** button. The System Setup menu displays.
3. Press the **↓** button to highlight the **Export Data** option, and then press the **OK** button to select it. The Export Data screen displays.
4. Press the **OK** button to select **Export Event Logs**. The event log is written to the USB drive and the FlowStation notifies you when the process is complete.
5. Unplug the USB drive from the USB port on the FlowStation. When you plug the USB drive into a computer, you will find the exported files on the USB drive in a folder labeled with the FlowStation's serial number.



## Enabling Diagnostics for Baseline Support

If you are working with Baseline Support to troubleshoot a problem on your FlowStation, the support specialist may ask you to enable additional diagnostic logs that will help track down the problem.

1. Press the **System Setup** button. The System Setup menu displays.
2. Press the **↓** button to highlight the **System Settings** option, and then press the **OK** button to select it. The System Settings screen displays.
3. Perform any of the following actions as directed by Baseline Support:
  - **Copy the full event log to a USB drive:** Plug a USB drive into the USB port on the FlowStation. Press the **↓** button to move to the **Log to USB** field, and then press the **+ or -** button to put a checkmark in the field. The support specialist will indicate how long you need to leave the USB drive plugged in
  - **Capture the status of all connected devices:** Press the **↓** button to move to the **Log Device Status** field, and then press the **+ or -** button to put a checkmark in the field.
  - **Capture all input/output on the FlowStation:** Press the **↓** button to move to the **Log FlowStation IO** field, and then press the **+ or -** button to put a checkmark in the field.

## Setting the FlowStation to OFF

If you press the OFF button, the FlowStation is turned off and the following processes will also be stopped:

- All running controller mainlines – will set all zones to done
- Any learn flow processes
- Any manual run operations (if already started)

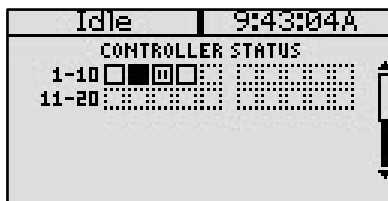
## Status Reports and Messages

The main screen shows information about the operating state of the FlowStation. The FlowStation provides the following categories of reports and each category can have multiple reports.

- Controller Status
- Mainline Status
- Control Point Status
- Water Source Status
- Operator Messages

### Viewing the Controller Status Report








1. When the FlowStation is in the Run menu, the Controller Status report typically displays on the screen. If you do not see “CONTROLLER STATUS” and the list of controllers, press the **RUN** button to make sure that the FlowStation is in the Run menu, and then press the **BACK** button to display the Status Report menu.
2. The **Controller Status** option should be highlighted. If it is not, press the **↑** or **↓** button to highlight it, and then press the **OK** button. The Controller Status screen displays.
3. To return to the Status Report menu, press the **BACK** button.



### Understanding Controller Statuses

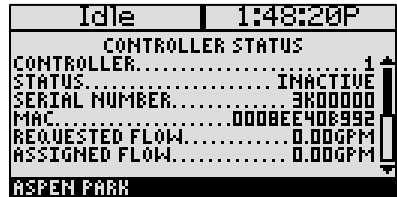
The following icons identify the status of the controllers in the Shared Flow Group:

| Icon | Status     | Description                                                                          |
|------|------------|--------------------------------------------------------------------------------------|
|      | Unassigned | No controller is assigned                                                            |
|      | Done       | The complete cycle has finished for this controller – including watering and soaking |
|      | Rain Delay | A rain delay is active for this controller                                           |

|                                                                                   |                                 |                                                                                                            |
|-----------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------|
|  | <b>Rain Jumper</b>              | The rain jumper switch is triggered on this controller                                                     |
|  | <b>Off</b>                      | The dial is set to OFF on this controller                                                                  |
|  | <b>Running</b>                  | Watering is in progress                                                                                    |
|  | <b>Paused</b>                   | A pause condition is in effect                                                                             |
|  | <b>Disabled or Disconnected</b> | The controller is marked as being disabled or disconnected from the FlowStation                            |
|  | <b>Error</b>                    | There is a message associated with this controller                                                         |
|  | <b>Flow Fault</b>               | The flow jumper on the controller reports a flow fault. This flow fault must be cleared at the controller. |

### Viewing Additional Controller Status Details

1. Display the Controller Status Report as described in the Viewing the Controller Status Report topic above.
2. Press the **↓** button. The Controller Status details for the first controller display.



- **Controller** – Shows the sequential number of the controller based on the slot in which this controller is assigned on the FlowStation
- **Status** – Shows the status of the connection between this controller and the FlowStation
- **Serial Number** – Shows the serial number of this controller
- **MAC** – Shows the MAC address of this controller
- **Requested Flow** – Shows the total amount of flow requested for all controller mainlines
- **Assigned Flow** – Shows the total amount of flow assigned for all controller mainlines

**Note:** The “Friendly Name” assigned to this controller in BaseManager displays at the bottom of the Controller Status Detail screen. If the BaseStation 3200 controllers in the shared flow group are connected to BaseManager, Baseline recommends that you assign a friendly name to each controller so your controllers are easier to identify.

3. To view the Controller Status details for the next controller, press the **↓** button.
4. To return to the Status Report menu, press the **BACK** button.












## Viewing the Mainline Status Report

1. Press the **RUN** button.
2. Press the **BACK** button. The Status Report menu displays.
3. Press the **↑** or **↓** button to highlight **Mainline Status**, and then press the **OK** button. The Mainline Status report displays. The mainlines display in a grid.
4. To return to the Status Report menu, press the **BACK** button.

### *Understanding Mainline Statuses*

The following icons identify the status of the mainlines:

| Icon                                                                                | Status         | Description                                                                        |
|-------------------------------------------------------------------------------------|----------------|------------------------------------------------------------------------------------|
|    | Off            | The complete cycle has finished for this mainline – including watering and soaking |
|    | Running        | Watering is in progress                                                            |
|    | Learn Flow     | A learn flow operation is in progress                                              |
|    | Paused         | A pause condition is in effect for this mainline                                   |
|    | Disabled       | The mainline is marked as being disabled                                           |
|    | Error          | There is a message associated with this mainline                                   |
|    | Flow Fault     | There is a flow fault associated with this mainline                                |
|  | Pressure Fault | There is a pressure fault associated with this mainline                            |
|  | Unassigned     | The mainline is not assigned to the FlowStation                                    |

### Viewing the Mainline Status Details

1. Display the Mainline Status Report as described in the Viewing the Mainline Status Report topic above.
2. Press the **↓** button. The Mainline Status details for Controller 1: Mainline 1 display.

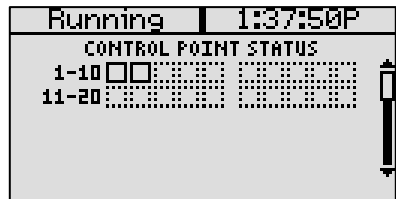
- **Mainline ID** – The first row shows the controller and mainline that this report is for.
- **Status** – Shows the current status of the mainline
- **Used Flow** – Shows the gallons per minute (GPM) assigned to flow through the mainline. This includes the GPM assigned to this mainline and the GPM assigned to downstream mainlines.
- **Estimated Flow** – Shows the GPM that the BaseStation 3200 controller is currently estimated to be using from the assigned amount.
- **Assigned Flow** – Shows the GPM assigned to the BaseStation 3200 controller for use on this mainline.



3. Perform one of the following actions:
  - To view the mainline status details for the next mainline, press the **↓** button.
  - To return to the Status Report menu, press the **BACK** button.



### Viewing the Control Point Status Report








1. Press the **RUN** button.
2. Press the **BACK** button. The Status Report menu displays.
3. Press the **↑** or **↓** button to highlight **Control Point Status**, and then press the **OK** button. The Control Point Status screen displays. The control points are represented by icons.
4. To return to the Status Report menu, press the **BACK** button.



### Understanding Control Point Statuses

The following icons identify the status of the control point:

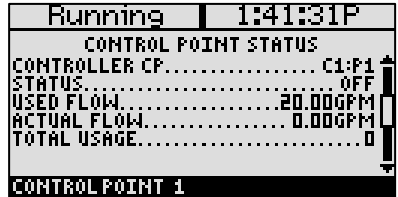
| Icon                                                                                | Status  | Description                                                                             |
|-------------------------------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------|
|  | Off     | The complete cycle has finished for this control point – including watering and soaking |
|  | Running | Watering is in progress                                                                 |

|                                                                                   |                |                                                              |
|-----------------------------------------------------------------------------------|----------------|--------------------------------------------------------------|
|  | Learn Flow     | A learn flow operation is in progress                        |
|  | Paused         | A pause condition is in effect for this control point        |
|  | Disabled       | The control point is marked as being disabled                |
|  | Error          | There is a message associated with this control point        |
|  | Flow Fault     | There is a flow fault associated with this control point     |
|  | Pressure Fault | There is a pressure fault associated with this control point |
|  | Unassigned     | The control point is not assigned to the FlowStation         |

### Viewing Additional Control Point Status Details

1. Display the Control Point Status Report as described in the Viewing the Control Point Status Report topic above.
2. Press the **↓** button. The control point status details display for the first control point.

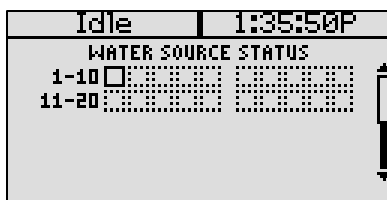
- **Controller CP ID** – The sequential number assigned to the controller and the control point in the FlowStation
- **Status** – The current status of the control point
- **Used Flow** – The gallons per minute (GPM) assigned to flow through the control point, including all flow assigned downstream from this control point.
- **Actual Flow** – The amount of water that is currently flowing through the flow meter at the control point shown in gallons per minute (GPM).
- **Total Usage** – Shows the sum of all water usage on the connected flow meter in gallons.



3. Perform one of the following actions:
  - To view the status details for the next control point, press the **↓** button.
  - To return to the Status Report menu, press the **BACK** button.








## Viewing the Water Source Status Report

1. Press the **RUN** button.
2. Press the **BACK** button. The Status Report menu displays.
3. Press the **↑** or **↓** button to highlight **Water Source Status**, and then press the **OK** button. The Water Source Status screen displays.  
The water sources are represented by icons.
4. To return to the Status Report menu, press the **BACK** button.



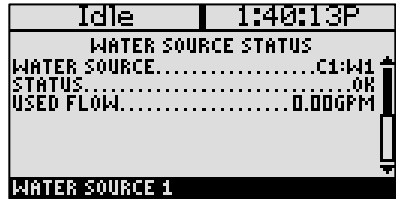
### Understanding Water Source Statuses

The following icons identify the status of the water sources:

| Icon                                                                               | Status     | Description                                              |
|------------------------------------------------------------------------------------|------------|----------------------------------------------------------|
|    | Unassigned | No water source is assigned to this slot                 |
|    | Off        | The water source is off                                  |
|    | Running    | The water source is currently running                    |
|    | Disabled   | The water source is marked as being disabled             |
|    | Budget     | The water source has a control point that is over budget |
|   | Empty      | The water source has an empty control point              |
|  | Error      | There is a message associated with this water source     |

### Viewing Additional Water Source Status Details

1. Display the Water Source Report as described in the Viewing the Water Source Status Report topic above.
2. Press the **↓** button. The status details for the first Water Source display.
  - **Water Source ID** – The sequential number assigned to the controller and the water source in the FlowStation
  - **Status** – The current status of the water source
  - **Used Flow** – Shows the gallons per minute (GPM) assigned to flow through the water source, including all flow assigned downstream from this water source.
3. Perform one of the following actions:
  - To view the status details for the next water source, press the **↓** button.
  - To return to the Status Report menu, press the **BACK** button.



### Viewing Operator Messages

1. Press the **RUN** button.
2. Press the **BACK** button. The Status Report menu displays.
3. Press the **↑** or **↓** button to highlight **View Messages**, and then press the **OK** button. The View Messages screen displays.

**Note:** Messages notify you when something in your system needs your attention, such as an error on the controller that affects all programs, a disconnected controller, or a flow fault. When your system is operating as expected, the View Messages screen indicates that there are no messages.



4. Perform any of the following options:
  - If the FlowStation indicates that there are multiple messages, press the **↓** button to display each message.
  - If you no longer need the message, press the **OK** button to clear it.

**IMPORTANT NOTE!** Most messages that display on the FlowStation are sent from one of the BaseStation 3200 irrigation controllers in the shared flow group. If you clear a message on the FlowStation, the message will reappear on the FlowStation until the error condition is cleared on the controller.
5. To return to the Status Report menu, press the **BACK** button.

# Appendix

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## Warranty

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Baseline warrants to the original consumer purchaser that new FlowStations will be free from defects in material and workmanship for the standard five-year warranty period. The Baseline biSensor™ as well as 1, 2 and 4 valve biCoders will be free of defects in material and workmanship for a five-year warranty period. The start of the warranty period is the date of installation of the system or component. For replacement irrigation components, the warranty on the replacement component is the remainder of the warranty on the original component, or 90 days, whichever is longer.

If you discover a defect, contact your Baseline product installer, or Baseline Inc.

Baseline will, at its option, repair or replace the component at no charge to the customer, provided it is returned during the warranty period, with transportation charges prepaid, to Baseline Inc. in Boise, Idaho. Baseline will pay return shipping of its choice. FlowStations and displays must be properly packaged in the original packaging or in Baseline approved packaging to obtain warranty service.

For warranty service, contact Baseline at 1-866-294-5847 to obtain a "Return Material Authorization" (RMA) number. A copy of the receipt or a bill of sale bearing the appropriate Baseline serial number and model number may be required for warranty service. Warranty Exclusions: normal wear and tear, abuse, unreasonable use, mistreatment, or neglect. Damage caused during installation or incorrect installation, damage caused by modification or repair not made or authorized by Baseline whose Manufacturer's Serial Number and/or Material Number label have been removed, torn or defaced, damage caused by use of non-Baseline packaging, damage caused by improper or improperly used packaging.

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BASELINE IS NOT RESPONSIBLE FOR SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF DATA, LOSS OF PROFITS, DOWNTIME, GOODWILL, DAMAGE OR REPLACEMENT OF EQUIPMENT AND PROPERTY.

Some states do not allow the exclusion or limitation of incidental or consequential damages or exclusions of implied warranties, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights that vary from state to state. A ten-year extended warranty will be available on the controller pending submission and approval of Baseline's extended warranty application.

## Notes

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## Notes

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