



# FlowStation

## Quick Start Guide

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**Customer Service 1-866-294-5847**

**Baseline Inc.**

[www.baselinesystems.com](http://www.baselinesystems.com)

Phone 208-323-1634

FAX 208-323-1834

Toll Free 866-294-5847

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**For the complete FlowStation user manual, please go to:**

<https://www.baselinesystems.com/flowstationmanual>



## Introduction

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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 communicates with a FlowStation using either a LAN-based or cloud-based communication path.

The LAN option utilizes a local area network at the site, or one can be created using a Cell Modem Gateway with Ethernet Radios. In this configuration all communication between a BaseStation 3200 and FlowStation remains local to the site.

The cloud-based option utilizes the cloud to allow the BaseStation 3200 and the FlowStation to pass information to one another. This configuration can be supported using a local area network or it can be set up using Cell Modems connected to the BaseStation 3200 and to the FlowStation.

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.

When a start condition is met for any one of the BaseStation 3200's shared schedules, the controller requests water from the FlowStation. If the FlowStation determines there is adequate water available, it will allocate the water to the requesting controller's schedule. If water is not available, the schedule will wait until the FlowStation allocates water before it begins.

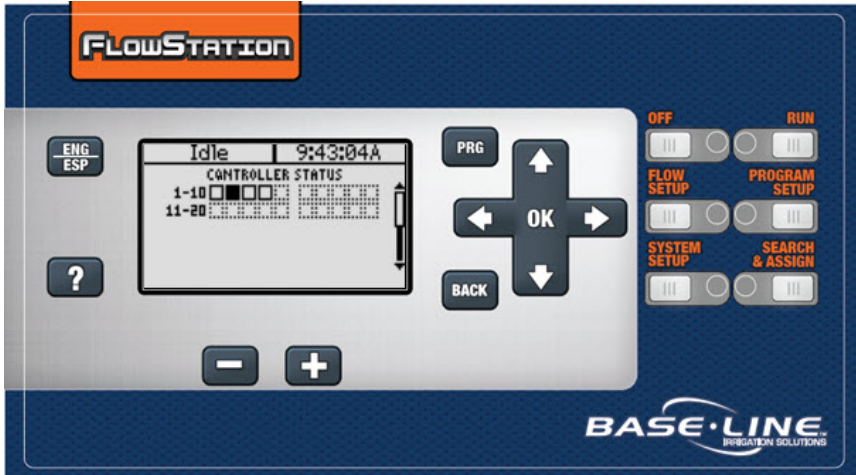
## Flow Monitoring

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.

## FlowStation Front Panel Layout



**Display** – The display indicates the current state of the FlowStation and is used to program the FlowStation. Refer to Setting Up the Screen Display in the User Manual 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

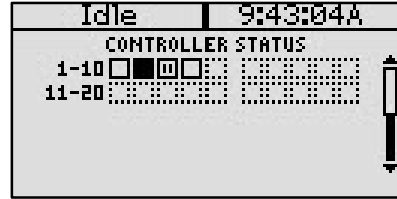
## On-Screen Help

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.

## 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 list of controllers, 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.



## 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.

## Overview of FlowStation and Shared Flow Setup

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**Step 1** – Install the FlowStation.

**Step 2** – Power up the communication module and verify that it is communicating with the network.

**Step 3** – Configure the network settings on the FlowStation.

**Step 4** – Install the BaseStation 3200 controllers that will be in the shared flow group.

**Step 5** – Install and connect all devices.

**Step 6** – Complete the BaseStation 3200 configuration.

**Step 7** – Power up the communication modules in the BaseStation 3200 controllers and verify that they are communicating with the network.

**Step 8** – Configure the network settings on the BaseStation 3200 controllers.

**Step 9** – Connect the BaseStation 3200 controllers to the FlowStation.

**Step 10** – Assign the BaseStation 3200 controllers to the shared flow group.

**Step 11** – Check the BaseStation–FlowStation connection status.

**Step 12** – Turn over control of the water sources, control points, and mainlines to the FlowStation.

**Step 13** – Configure the FlowStation settings.

## Quick Start for the FlowStation and Shared Flow Group

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These instructions walk you through the basic steps for getting your FlowStation and BaseStation 3200 controllers set up. Refer to the User Manuals for complete instructions for all of the features on the FlowStation and the BaseStation 3200 controller.

### STEP 1 – Install the FlowStation

Install the FlowStation and connect it to power according to the instructions in the installation guide.

### STEP 2 – Power Up the Communication Module in the FlowStation

Power up the communication module in the FlowStation and make sure it is communicating with the network. Baseline provides instructions for the specific type of communication module you purchased with your FlowStation.

### STEP 3 – Configure the Network Settings on the FlowStation

The FlowStation can be connected and configured through a local area network (LAN) using a static IP address, through a LAN using a dynamic IP address, or through a cloud-based network using a dynamic IP address. Choose the method(s) that works best for your site.

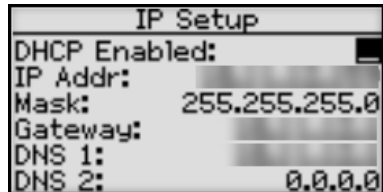


**Note:** Before proceeding, please make sure the FlowStation is running on the latest firmware. Instructions on updating firmware are found in this guide.

**Method 1: Configuring a LAN Connection for 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 in the FlowStation User Manual.

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.

**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.

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.

### ***Method 2: Configuring the FlowStation to the Cloud using a LAN:***

The following steps will allow you to connect to the cloud using a LAN (Local Area Network). Make sure the communication module in your FlowStation is powered up and communicating with the network.

1. On the FlowStation, press the **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 **↑** or **↓** button to highlight **IoT Server Set-Up**, and then press the **OK** button. The IOT Server Setup screen displays.
4. Press the **+ or –** button to place a checkmark in the **Use IOT Server** field.
5. Press the **Back** button.
6. Press the **↓** button to highlight the **IOT Server Info** option, and then press the **OK** button to select it. The IOT Server Info screen displays.
7. Press **OK** to connect to the server.



### ***Method 3: Connecting a FlowStation to the Cloud using a Cell Modem:***

The following steps will allow you to connect to the cloud using a Cell Modem.

1. Make sure the communication module in your FlowStation is powered up and communicating with the network.
2. On the FlowStation, press the **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 place a checkmark in the **DHCP Enabled** field.
6. Press the **Back** button.
7. Press the **↓** button to highlight the **IP Info** option, and then press the **OK** button to select it. The IOT Server Info screen displays.
8. Press **OK** to connect.

## STEP 4 – Install the BaseStation 3200 Controllers

Install the BaseStation 3200 according to the instructions that came with the controller.

**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](http://www.baselinesystems.com)). Refer to the BaseStation 3200 User Manual to find instructions for updating the controller firmware.

## STEP 5 – Install and Connect All Devices

Install all of your irrigation devices and connect them to the BaseStation 3200 controller according to the instructions that came with the devices.

## STEP 6 – Complete the BaseStation 3200 Configuration

On each BaseStation 3200 irrigation controller that is part of the shared flow group, follow the instructions in the BaseStation 3200 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, control points (CP), and mainlines. You can also perform these setup tasks on the FlowStation. Refer to Assigning the Shared Flow Components in the FlowStation User Manual.
- Assign zones to mainlines.

## STEP 7 – Power Up the Communication Modules in the BaseStation Controllers

Power up the communication modules in the BaseStation 3200 controllers and make sure they are communicating with the network. Baseline provides instructions for the specific type of communication module you have purchased with your controller.

## STEP 8 – Configure the Network Settings on the BaseStation 3200 Controllers

If the BaseStation 3200 controllers in the shared flow group will connect to an existing network that is managed by a network administrator, ask the admin for the network settings.

If the controllers in the shared flow group will connect to a stand-alone network, make sure the communication modules in the controllers are powered up and communicating. The controllers can use either DHCP mode or a static IP address for the network connection. If you need to set up an IP address on the controller, refer to the instructions in the BaseStation 3200 User Manual.

After all devices are on the network, you can connect the BaseStation 3200 controllers to the FlowStation.

## STEP 9 – Connect the BaseStation 3200 Controllers to the FlowStation

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

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 **Flow Station Setup** option.
4. Press the **Enter** button. The Network screen displays.
5. In the **Connect/Disconnect** field, press **Enter** to either connect or disconnect the FlowStation.
6. If connecting to the cloud, press **+** to place a checkmark in the IoT Server field.
7. Press the **Next** button to move to the first cell of the **Flow Station IP** field.
8. Press the **+** button to change the number to match the first group of numbers in the IP address of the FlowStation.

FlowStation	Network
Press Enter to	<b>Disconnect</b>
IOT Server	<input type="checkbox"/>
FlowStation IP	<input type="text" value="10"/> <input type="text" value="11"/> <input type="text" value="12"/> <input type="text" value="120"/>
FlowStn Status:	Connecting
FlowStation MAC:	000000000000
IOT Server Status:	Disabled
	<input type="button" value="Help"/>

**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.

9. 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.
10. Repeat steps 2 through 8 on each BaseStation 3200 irrigation controller that you want to connect to the FlowStation.

**Note:** The connection between the controller and the FlowStation is not complete until you assign the controller on the FlowStation. Continue to Step 10 on the following page or refer to Assigning BaseStation 3200 Controllers to the Shared Flow Group in the FlowStation User Manual.

## STEP 10 – Assign the BaseStation Controllers to the Shared Flow Group

1. On the FlowStation, press the **Search & Assign** button. The Assign menu displays.
2. Press the **↓** 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.

Controller Assignments	
ACTION	CONTROLLER
Unassign 1	
3K00000	1-None
	2-None
	3-None

3. Press the **↑** or **↓** 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.
4. Press the **⇒** button to move to the **Controller** column.
5. Press the **↑** or **↓** button to move through the list of controller slots. Highlight the number that you want to assign the controller to.

Controller Assignments	
ACTION	CONTROLLER
	1-3K00000
Unassign 1	2-None
	3-None
	4-None

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.

**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 **↑** or **↓** 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.

## STEP 11 – Check 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.
- **Connected:** This status displays after the controller has been added to the shared flow group.

5 Message(s)	RUN
{Aspen Park}	FlowStn: Connected
9:59:51 AM	BaseMgr: Connected
Wed - 2/28/2018	Two-wire: 0.84 Amps
	WF02132: 0.0 GPM
MV Status <span style="color:blue">C</span> <span style="color:green">C</span> <span style="color:red">C</span>	
Pump Status	
1 - 10	
11 - 20	
21 - 30	
31 - 40	
41 - 50	
<--Previous	Next-->

## STEP 12 – Enable Shared Flow for Water on the BaseStation 3200

After the resources are “shared” they can no longer be used directly by the controller. The FlowStation will determine which resources are needed when there is a call for water.

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

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
Points of Control	
Mainlines	
-	-
-	-
WS1	YES
WS2	NO
WS3	NO
WS4	NO
{Water Source 1}	
Help	

## STEP 13 – Configure the FlowStation Settings

For help with the tasks required to configure the FlowStation settings, refer to the following topics in FlowStation User Manual:

- Assigning the Shared Flow Components
- Setting Up the Flow Components
- Setting Up the Hydraulic Layout for Shared Flow

## Notes

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## Notes

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## Notes

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