BASE·LINE
IRRIGATION SOLUTIONS™

SubStation
User Manual

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1 – Introduction

The SubStation™ is the perfect solution for difficult retrofitting situations or complex irrigation sites. The SubStation provides access to the industry-leading BaseStation 3200™ controller using a local area network (LAN), or using cloud-based communication. This wireless functionality means you can consolidate multiple existing controllers into a single BaseStation 3200 controller without running expensive wire across long distances.

After the SubStation is connected, you can take full advantage of the powerful BaseStation 3200 capabilities to managed devices connected to the SubStation from any location. All devices that are physically connected to the SubStation are configured and assigned to programs in the BaseStation 3200 controller or in BaseManager™ (if the associated BaseStation 3200 controller is connected to BaseManager).

The BaseStation 3200 has 8 available addresses for TCP/IP-based performance components. Each SubStation connection uses one of these addresses. The connections can be a combination of wired Ethernet, Wi-Fi, Cell Modem and Ethernet radios.

The BaseStation 3200 communicates with a SubStation 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 SubStation remains local to the site.

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

The BaseStation 3200 can support communication with SubStations using the LAN while simultaneously supporting communication with additional SubStations using the cloud.

Installing the Components

Install the SubStation

- Install each SubStation and the communication modules according to the instructions that came with the equipment.

- Make sure the SubStations are powered up and the communication equipment is connected.

- Make sure the two-wire is connected to the SubStation, and the devices are connected to the two-wire. Refer to the SubStation Device Specifications in the Appendix.

- To find the required tasks for connecting the SubStation to the network, refer to the section on Configuring the Network Settings on the SubStation on page **Error! Bookmark not defined.** of this User Manual.

Install the BaseStation 3200 Irrigation Controller

- Refer to the BaseStation 3200 User Manual to install and set up the irrigation controller.

- If you are using network communication modules with the BaseStation 3200, install the modules according to the instructions that came with the equipment.

- Make sure the network communication equipment is powered up and connected.

2 – The SubStation Interface

Because all devices connected to the SubStation's wire path are assigned and configured on the connected BaseStation 3200 irrigation controller, the SubStation has a simplified interface.

Display – The display indicates the current state of the SubStation and is used to program the SubStation. Refer to Setting Up the Screen Display on page 12 in this 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 SubStation. An indicator light is illuminated on the active button.

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

+	Increase the value of the selected 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
⇧⇩⇦⇨	Move within a screen
OK	Select an option or perform an action
BACK	Return to a previous screen or cancel an action

Viewing the Controller Status Report

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

If you do not see "CONTROLLER STATUS" at the top of the screen, 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.

```
 IDLE     |  8:45:25A
      CONTROLLER STATUS
STATUS................CONNECTED
CONTROLLER IP.......10.11.12.193
CONNECT TIME........MAR 6, 11:50P
MAC................0008EE408992
SERIAL NUMBER...........3K00005
DATA (IN/OUT).........43524/43976
```
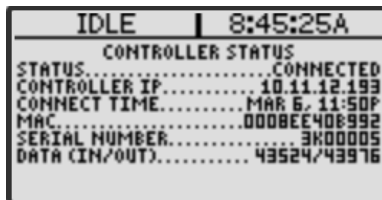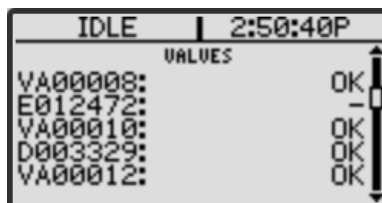
Understanding Controller Status Information

When the SubStation is connected to the network and to a BaseStation 3200 irrigation controller, the Controller Status screen shows the details of the connection.

- **Status** – Indicates whether the SubStation is connected to the BaseStation 3200 irrigation controller

- **Controller IP** – Shows the Internet Protocol address (IP address) of the connected BaseStation 3200 irrigation controller

- **Connect Time** – Shows the date and time when the connection between the SubStation and the BaseStation 3200 was established

- **MAC** – Shows the Media Access Control address (MAC address), which is a unique identifier for BaseStation 3200's network connection

- **Serial Number** – Shows the serial number of the BaseStation 3200

- **Data (In/Out)** – Shows the amount of data in KB that has been transferred between the SubStation and the BaseStation 3200

Viewing Device Status Reports

The SubStation displays the serial numbers and status of all connected devices.

1. Press the **RUN** button to make sure that the controller is in the RUN menu.

2. Press the **BACK** button to display the Status Report menu.

3. Press the ⇩ button to highlight the specific type of device that you want to see the status report for, and then press the **OK** button. The status report displays.

```
 IDLE     |  2:50:40P
           VALVES
VA00008:              OK
E012472:              −
VA00010:              OK
D003329:              OK
VA00012:              OK
```

When a device is connected to the SubStation, its first status shows as a dash [–]**,** which means that the device has not yet been read or tested. The other possible statuses for devices are shown below:

Valves: Ok, No Reply, Comm(unication) Error, Solenoid Open, Solenoid Short, Voltage Too Low, Running
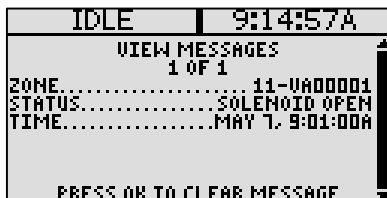
Other Devices: Ok, No Reply, Comm(unication) Error

4. Press the **BACK** button to return to the Status Report menu.

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 open solenoid or no response from a device. When your system is operating as expected, the View Messages screen indicates that there are no messages.

```
  IDLE    |  9:14:57A
        VIEW MESSAGES
          1 OF 1
ZONE................11-VA00001
STATUS..........SOLENOID OPEN
TIME.............MAY 7, 9:01:00A


   PRESS OK TO CLEAR MESSAGE
```

4. Perform any of the following options:

    ▪ If the controller 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.

5. To return to the Status Report menu, press the **BACK** button.

    Note: If an issue occurs, both the SubStation and the connected BaseStation 3200 will display a message about the issue. However, the wording of the message on the SubStation may differ from the wording of the message on the BaseStation 3200.

Viewing the System Status Report

1. Press the **RUN** button.

2. Press the **BACK** button. The Status Report menu displays.

3. Press the ⇧ or ⇩ button to highlight **System Status**, and then press the **OK** button. The System Status screen displays.

   - Two-wire voltage

   - Two-wire current

   - The internal temperature of the controller

```
┌─────────────────────────────┐
│  IDLE    │  8:16:30A        │
│      SYSTEM STATUS           │
│ TWO-WIRE VOLTAGE......30.7V/31.4V │
│ TWO-WIRE CURRENT......0.11A/0.05A │
│ CONTROLLER TEMPERATURE......31.5C │
│                             │
│                             │
└─────────────────────────────┘
```

4. To return to the Status Report menu, press the **BACK** button.

3 – Configuring the Network Settings on the SubStation

The Substation 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.

For LAN communication, the SubStation and the BaseStation 3200 irrigation controller communicate with each other over a subnet on a TCP/IP network. In some implementations, the SubStation can connect to the network over an Ethernet cable. In other implementations, the SubStation can connect to the network with Wi-Fi or Ethernet radio.

The SubStation must have an IP address on the network. Depending on the requirements of the network that the SubStation is connected to, the IP address can either be assigned by DHCP or it can be a static IP address assigned by a network administrator. If you need to have the network administrator assign a static IP address set up for the SubStation, also ask the admin for the Subnet Mask and the Gateway settings for the network.

The Substation can use a cell modem to connect to the cloud which will allow it to communicate with a BaseStation 3200. The cell modem will assign the SubStation an IP address by DHCP.

Note: Before proceeding, please make sure the Substation is running on the latest firmware. Instructions on updating firmware are found in the Substation User Manual.

Method 1: Configuring a LAN connection for the SubStation

Ask your network administrator to set up a static IP address for the SubStation. Also ask your admin for the Subnet Mask, the Gateway, and the DNS settings for the network.

1. Make sure that the SubStation is connected to the network either with an Ethernet cable or a communication module.

2. On the controller, 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 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 page 98.

```
        IP Setup
DHCP Enabled:          ■
IP Addr:     10.11.12.81
Mask:       255.255.255.0
Gateway:      10.11.12.3
DNS 1:        10.11.12.3
DNS 2:          0.0.0.0
```

6. Determine the static IP address that you will assign to the SubStation. 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 SubStation and BaseStation 3200 are connected to a stand-alone network that does not have Internet access. The devices on this stand-alone network have IP addresses in the range 192.168.111.100 - 192.168.111.105. You can set the static IP address on the SubStation 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.

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.

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 Substation 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 SubStation is powered up and communicating with the network.

1. On the SubStation, 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.
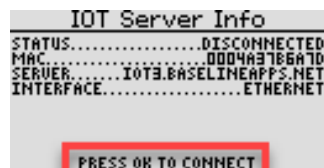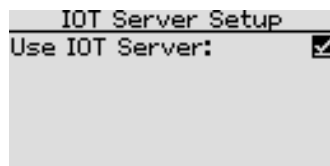
Method 3: Configuring the Substation to the Cloud using a Cell Modem:

The following steps will allow you to connect to the cloud using a cell modem.

1. Make sure the communication module in your SubStation is powered up and communicating with the network.

2. On the SubStation, 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.

Viewing the IP Information Screen

When the SubStation is connected to the network with a communication method such as an Ethernet cable, an Ethernet radio, or a Wi-Fi module, the system automatically assigns the networking addresses that enable the connection. You do not need to change any of this IP (Internet protocol) information, but you might need to refer to it in order to complete your connection or to troubleshoot it.

1. 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 ⇩ button to highlight the **IP Info** option, and then press the **OK** button to select it. The IP Info screen displays the following information:

   - **Status** – Indicates whether the SubStation is connected to the network

   - **Interface** – If the SubStation is connected, this field indicates what communication interface is in use

   - **IP Addr** – An Internet Protocol address (IP address) is a number assigned to a device (such as the SubStation) that is connected to a computer network and uses the Internet Protocol to communicate on the 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 the SubStation to pass through to a larger network

- **DNS 1** – A naming system (Domain Name System) for devices, such as the SubStation, that are connected to a network

- **DNS 2** – An additional domain name that is assigned to the SubStation

- **MAC** – The Media Access Control address (MAC address) is a unique identifier for your SubStation's network connection

# 4 – Using the Additional Setup Options on the SubStation

The SubStation has a number of features that enable you to manage the controller. You can set up the date and time. You can configure the display for optimal viewing. You can also ensure that your SubStation has the most current firmware with a download from the Baseline website.

Setting the SubStation Date and Time

It is important to keep the date and time on the SubStation synchronized with the BaseStation 3200 controller that it is connected to. Incorrect date and time settings can cause watering events to be missed.

Note: When the SubStation is connected to a BaseStation 3200 controller, which, in turn, is connected to BaseManager, the date and time on the SubStation will be automatically set by the BaseManager server. In this case, you are unable to manually change the date and time on the SubStation.

1. Press the **Setup** button. The System Setup menu displays.

2. The **Time & Date Setup** option should be highlighted. If it is not highlighted, press the ⬆ or ⬇ button to highlight it, and then press the **OK** button. The Time & Date Setup screen displays.

```
  Time & Date Setup
Time:            9:24A
Date:      Feb 6, 2017
Weekday..........Monday
Time Format:      AM/PM
```

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.

5. Press the ⬇ button to move to the **Weekday** field, and then press the **+** or **–** button to change the value in the field.

6. 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.
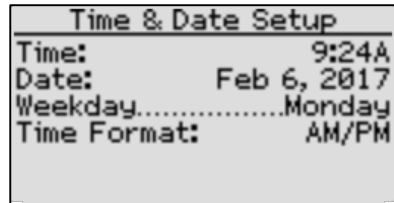
   Example: In AM/PM format   10:00A and 10:00P

   In 24 hour format   10:00 and 22:00

7. When you have finished making changes, press the **RUN** button.

Setting Up the Screen Display

You can adjust the brightness and contrast on the SubStation 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.

7.   Perform one of the following options:

     ▪   To return to the **System Setup** screen, press the **BACK** button.
     ▪   To return the controller to the Run menu, press the **RUN** button.

Clearing the Assigned Devices on the SubStation

This function will clear all assigned devices from the SubStation. We recommend that you use this function only as directed by Baseline Support. After you clear the assigned devices, you must go to the BaseStation 3200 controller to reassign them.

1.   Press the **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 assigned devices, press the **+** button.

     Note: To exit this screen without clearing all assigned devices from the SubStation, press the BACK button.

Updating the Firmware on the SubStation

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

Before you can update the firmware on the SubStation, you must download the firmware update files onto a USB drive from the Baseline website.

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

1. Download the firmware from the Baseline website.

    a. Plug a USB drive into a USB port on a computer that is connected to the Internet.

    b. Go to the Baseline website at the following URL:

        www.baselinesystems.com

    c. On the home page, click **Support**.

    d. In the left navigation bar, click **Firmware Updates**.

    e. Click the **SubStation** tab.

    f. Click the button to download the firmware upgrade.

    g. When prompted, choose the **Save As** option. The Save As dialog box displays.

    h. Find the USB drive in the list of drives and folders, and then double-click to select it.

    i. Click **Save**.

    j. Close the Windows Explorer window for the USB drive.

    k. In the System Tray area of your Windows Desktop, click the option to **Safely Remove Hardware and Eject Media**.

    l. When the **Safe to Remove Hardware** message displays, unplug the USB drive from the computer.

2. Update the firmware on the SubStation.

    a. On the SubStation, plug the USB drive that has the Update file on it into the USB port.

    b. Press the **Setup** button. The System Setup menu displays.

    c. Press the ⇩ button to highlight the **Firmware Update** option, and then press the **OK** button to select it. The USB Update screen displays.

    The SubStation 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."

    d.   Press the **+** button to apply the update. When the update is complete, the SubStation restarts and briefly displays the new firmware version.

    e.   Unplug the USB drive from the port on the SubStation.

    f.   Press **RUN** on the SubStation.

Exporting Data from the Controller

The SubStation keeps a record of all changes and all actions that occur. Because these logs are stored in the SubStation'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 SubStation.

2.   Press the **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 ⇩ button to highlight the type of data that you want to export, and then press the **OK** button.

    Note: While the export is in progress, you might see "Exporting Data" display on the screen, but the SubStation does not display a message to indicate that the export is complete. When the export is complete, the SubStation displays the Export Data screen shown in this illustration.

```
┌─────────────────────────┐
│      Export Data        │
│ Export Hourly Logs     ▶│
│ Export Event Logs      ▶│
│                         │
│                         │
│                         │
└─────────────────────────┘
```

5.   Unplug the USB drive from the USB port on the SubStation. 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 SubStation's serial number.

Enabling Diagnostics for Baseline Support

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

1. Press the **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 controller. 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 BaseStation 3200 communication**: Press the ⇩ button to move to the **Log 3200 IO** field, and then press the + or – button to put a checkmark in the field.

   - **Capture all two-wire communication**: Press the ⇩ button to move to the **Log Two-Wire IO** field, and then press the + or – button to put a checkmark in the field.

Finding the SubStation Serial Number

If you need the serial number for your SubStation, you can find it on the System Settings screen.

1. Press the **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. Find the SubStation's serial number in the field at the bottom of the screen.
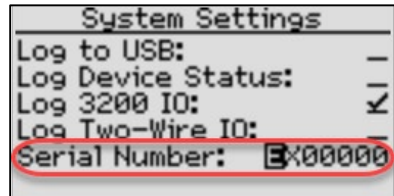
   Note: When the SubStation is connected to a BaseStation 3200 irrigation controller, you can also find the SubStation's serial number on the SubStation screen in the BaseStation 3200.

5 – Configuring the BaseStation 3200 Irrigation Controller for the SubStation

If the BaseStation 3200 irrigation controller is already connected to BaseManager, the Subnet Mask, Gateway, and other Ethernet settings are common to both BaseManager and the SubStation connections.

If the SubStation and the BaseStation 3200 irrigation controller will connect to a stand-alone network, make sure the communication modules in the SubStation and the BaseStation 3200 irrigation controller are powered up and communicating. Set up the static IP address on the SubStation. After the devices are on the network, you will connect the SubStation to the BaseStation 3200 using the IP address.

IMPORTANT NOTE! If you are connecting a SubStation to a BaseStation 3200 controller that is already in service, make sure that the controller has been updated to the most current firmware version. Refer to the BaseStation 3200 User Manual to find instructions for updating the controller firmware.

Connecting a SubStation to a BaseStation 3200 Irrigation Controller

After your SubStation is powered up and connected to the network, you need to connect the SubStation to the BaseStation 3200 irrigation controller. You can connect the SubStation to the controller while at the controller or remotely, from AppManager.

IMPORTANT NOTE! The BaseStation 3200 has 8 available addresses for TCP/IP-based performance components. Each SubStation connection uses one of these addresses. Baseline's FlowStation and the Munro Pump Station also use these addresses.

1. Get the **IP Address** from the SubStation.

   a. On the SubStation, press the **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 SubStation in the **IP ADDR** field, and then write it down.

2. Make sure the BaseStation 3200 irrigation controller is connected to the same network as the SubStation.

3. On the BaseStation 3200 irrigation controller, turn the dial to the **Network** position.

4. Press the **Next** button until the **SubStation Setup** option is highlighted.

5. Press the **Enter** button. The Network screen displays.

6. In the **SubStation ID** field, press the **+** button to set the ID to a number 1 through 8.

7. Press the **Next** button to move to the **Connect/Disconnect** field, and then press Enter to either connect or disconnect the SubStation.

8. Press the **Next** button to move to the first cell of the **SubStation IP** field.

9. Press the **+** button to change the number to match the first set of numbers in the IP address of the SubStation.

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

10. Complete the IP address by pressing the **Next** button to move to the next cell of the **SubStation IP** field. Then press the **+** button to change the number.

11. Repeat the procedure for each SubStation that you are connecting to the controller. The BaseStation 3200 irrigation controller can communicate with up to 8 SubStations over a network.

Checking the SubStation–BaseStation Connection Status

1. On the BaseStation 3200 irrigation controller that the SubStation is connected to, turn the dial to the **Network** position.

2. Press the **Next** button until the **SubStation Setup** option is highlighted.

3. Press the **Enter** button. The Network screen displays.

4. In the **SubStation ID** field, press the **+** button to choose the SubStation that you want to see the connection status for.

   The connection status displays in the **SubStation Status** field.

Configuring SubStation Devices

You configure the devices that are physically connected to the SubStation's wire path on the BaseStation 3200 irrigation controller.

The SubStation's devices are included in the total device count for the BaseStation 3200. If the total number of devices exceeds the BaseStation 3200 specifications, the additional devices will be ignored. There is no way to select which devices show up on the BaseStation 3200 if the maximum is exceeded. Refer to the Summary of BaseStation 3200 Device Specifications in the Appendix.

To find the instructions for assigning and configuring the devices, refer to the section on Configuring Devices in the BaseStation 3200 User Manual.

Assigning the SubStation's Devices to Programs on the BaseStation 3200

After you have assigned and configured the SubStation's devices in the BaseStation 3200, you can add those devices to programs in the BaseStation 3200. By default, the SubStation zones and devices are identified by their serial numbers, and there is no indication that they are attached to the SubStation. However, if your BaseStation 3200 is connected to BaseManager, you can add descriptions to the zones and other devices to label them as SubStation devices. You can also add a program description to help you keep track of the SubStation program(s). The illustration below shows an example of how the descriptions in BaseManager help identify a SubStation zone and program in the BaseStation 3200 Zones screen.

To find the instructions for programming tasks, refer to the section on Initial Programming in the BaseStation 3200 User Manual.
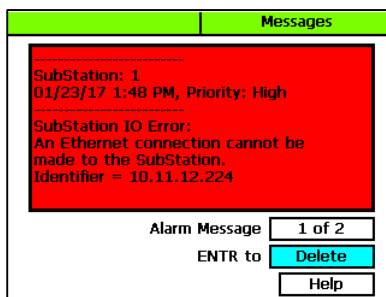
Viewing SubStation Messages on the BaseStation 3200

Messages notify you when something in your system needs your attention, such as an open solenoid or no response from a device. When your system is operating as expected, the Messages screen indicates that there are no messages.

If an issue occurs, both the SubStation and the connected BaseStation 3200 will display a message about the issue. However, the wording of the message on the SubStation may differ from the wording of the message on the BaseStation 3200.

1. When the main screen on the BaseStation 3200 irrigation controller that the SubStation is connected to indicates that messages exist, turn the dial on the BaseStation 3200 to the **Messages** position.

2. If there are multiple messages, press the **+** or **–** button to scroll through the messages.

3. To clear the message, press the **Next** button to highlight the **Delete** field, and then press the **Enter** button.

    Note: For more information about messages on the BaseStation 3200, refer to the Operator Messages topic in the BaseStation 3200 User Manual.

    Note: If you have a BaseManager account, you can also view the SubStation messages on the Quick View page in BaseManager.

Appendix

Summary of SubStation Device Specifications

Each SubStation shall be able to operate:

- Up to 100 zones along a two-wire path and/or a conventional wire path

- Up to 20 moisture sensors

- Up to 3 temperature sensors, which monitor and control program operation based on temperature thresholds

- Up to 3 normally open or normally closed event device inputs

- Up to 3 normally open or normally closed master valves and/or pump starts for the entire system

- Up to 3 flow sensors or meters

- Up to 110 device loads on the two-wire path

    - 1, 2, and 4 station biCoders = ½ load

    - 12 to 24 station Powered biCoders = 2 loads

    - Soil moisture sensor = 1 load

    - Flow biCoder = 3 loads

    - Event device = 1 load

Summary of BaseStation 3200 Device Specifications

- Supports up to 200 zones in any combination of two-wire and conventional wire

- Supports up to 25 biSensor soil moisture sensors

- Supports up to 8 flow sensors or meters

- Supports up to 8 separate normally closed or normally open event devices

- Supports up to 8 normally open and/or normally closed master valves and/or pump starts for the entire system

- Supports up to 8 temperature sensors

- Supports a maximum of 252 addressed devices

Warranty

Baseline warrants to the original consumer purchaser that a new SubStation as well as the 12 and 24 valve biCoders 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. SubStations 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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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.