

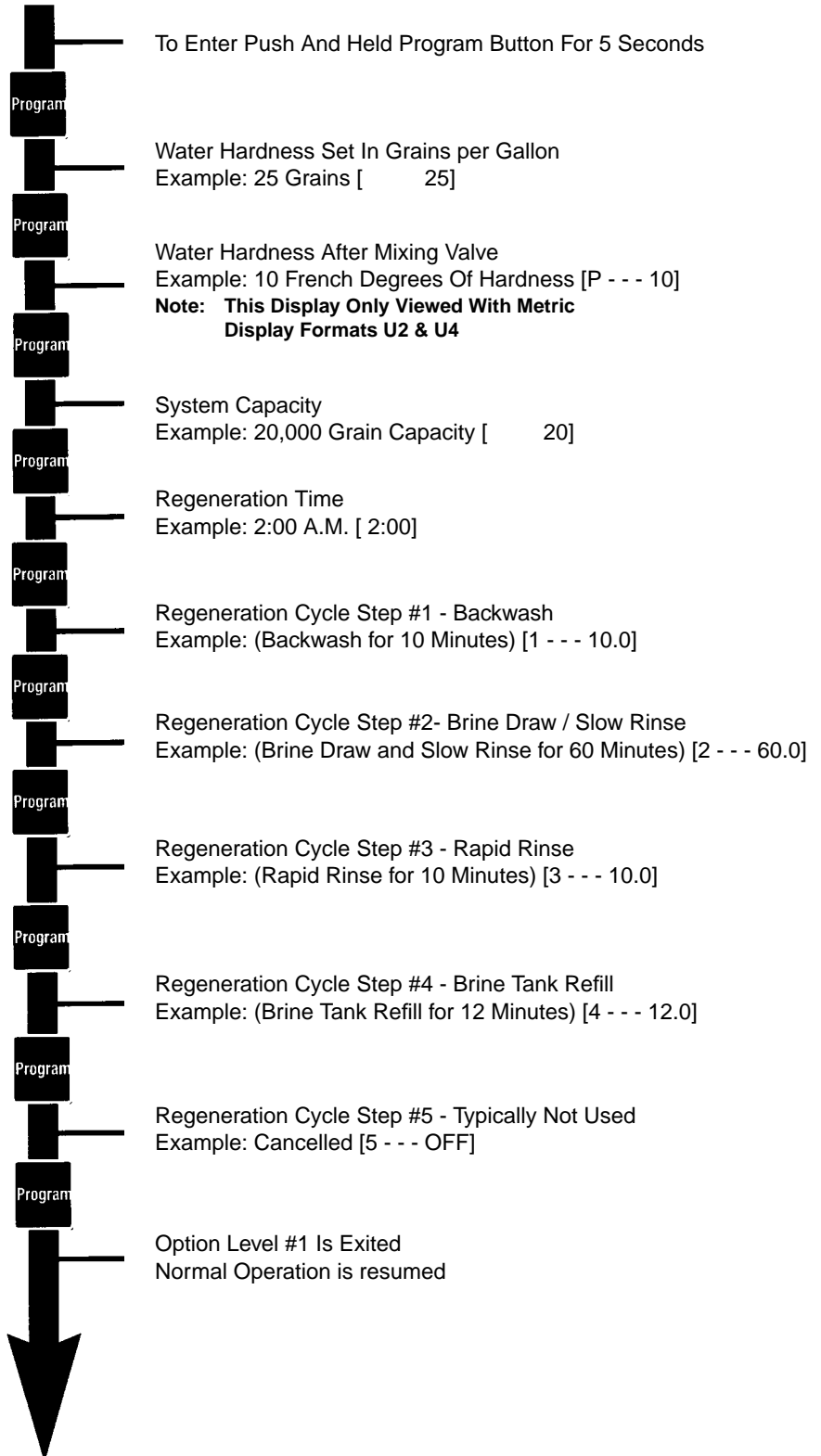
# 3200ET Timer - V2.0

## Option Setting Level #1 Programming Chart For Standard Valves

### Level #1

**Note:**

1. Push Program Button Once Per Display.
2. Option settings may be changed by pushing either the Up or Down Arrow Button.
3. Depending on current valve programming certain displays will not be able to be viewed or set.



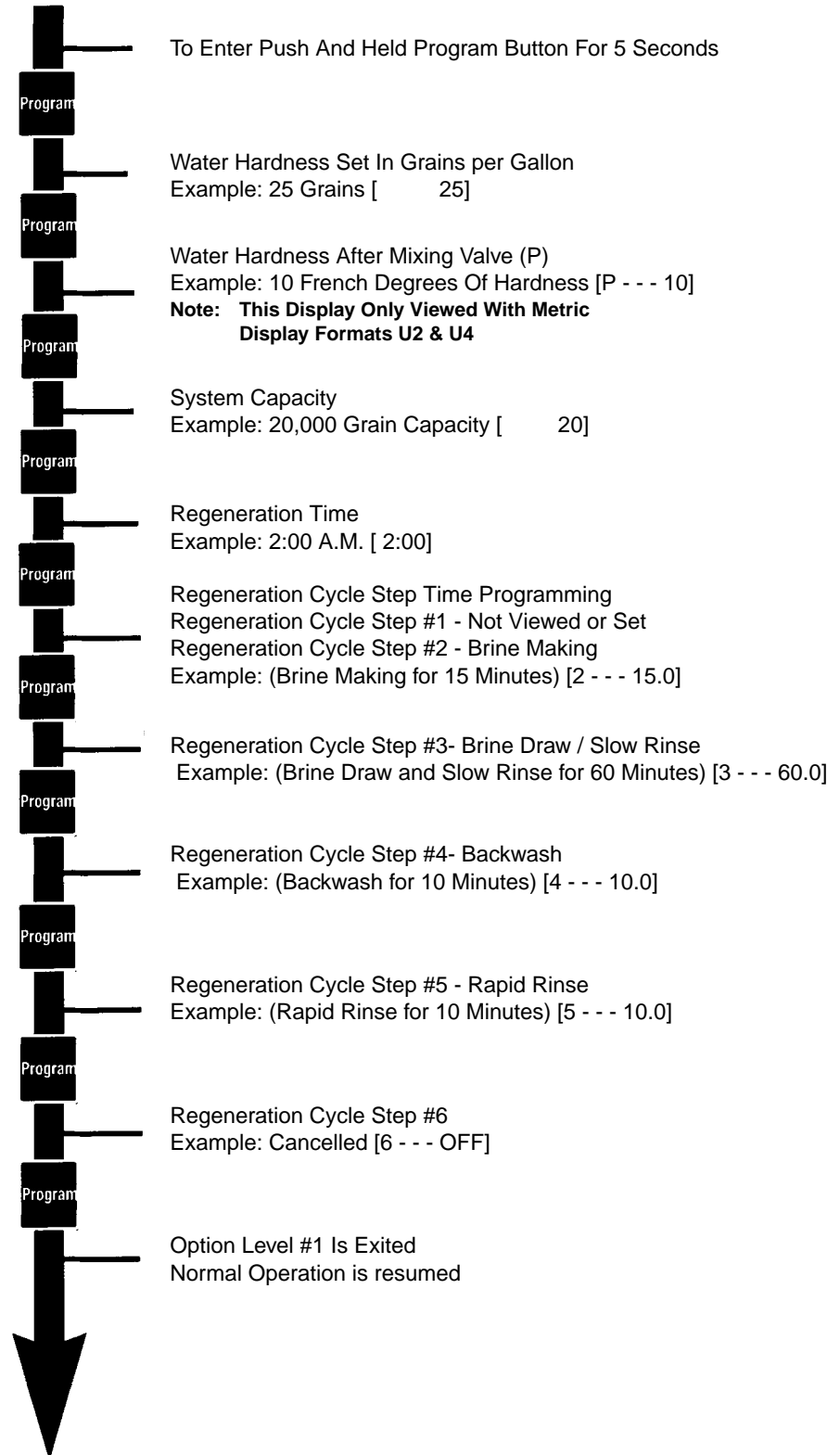
# 3200ET Timer - V2.0

## Option Setting Level #1 Programming Chart For Variable Brining Valves

### Level #1

**Note:**

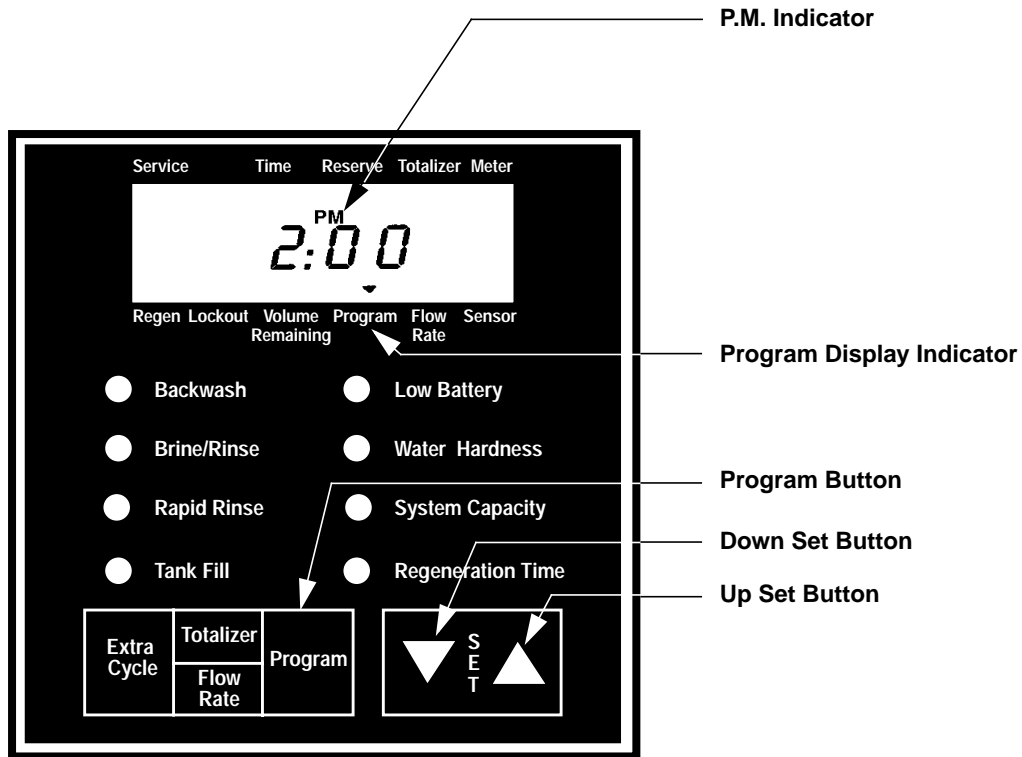
1. Push Program Button Once Per Display.
2. Option settings may be changed by pushing either the Up or Down Arrow Button.
3. Depending on current valve programming certain displays will not be able to be viewed or set.



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## Option Setting Level #1 - Installer Programming

This level includes the functioning parameters of the softener, related to site conditions. If the Chemical Pump Output feature is active, first remove the flow meter harness from the meter cap before entering any program level.



### Entering Option Level #1

Depress the Program Button for five seconds. The Program Arrow will turn on and the first display viewed is used to set the Inlet Water Hardness. Depending on current programming, certain displays or option settings will not be viewed.

#### 1. Water Hardness

The unit of measure used for this setting is grains/French degrees/P.P.M./German degrees. This option setting is identified by the red LED next to the Water Hardness label.

Example: 25 grains [ **25** ]

The **UP** and **DOWN Set Buttons** will adjust this value.

#### 2. Water Hardness After Mixing Valve (P)

Depress the Program Button. The next display viewed is the option setting for water hardness after the mixing valve. This option setting is identified by the letter P only. The unit of measure used for this setting is French degrees or P.P.M. This display will only be able to be viewed with US/metric Display Format set to U-2 or U-4 (metric formats).

Example: 10 French degrees of hardness [ **P - - - - 10** ]

The **UP** and **DOWN Set Buttons** will adjust this value.

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## Option Setting Level #1 - Installer Programming (Cont'd.)

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### 3. System Capacity

Depress the Program Button. The next display viewed is the option setting for Capacity. This option setting is identified by the red LED on next to the label System Capacity. The unit of measurement used for this setting is kilograms/French degree x m<sup>3</sup>/grams/German degree x m<sup>3</sup>. The total capacity of the softener is set with this display. If required, the control will calculate a reserve automatically.

Example: 20,000 grain capacity - [ 20 ]

The **UP** and **DOWN Set Buttons** will adjust this value.

### 4. Regeneration Cycle Step Programming (1) (2) (3) (4) (5) (6)

Depress the Program Button. The next 2 to 6 displays viewed are used to program the Regeneration Cycle. Up to 6 steps can be programmed. Each display is used to set the duration time in minutes of that specific step in a regeneration cycle. A red LED will turn on for the regeneration cycle step being programmed (except steps #5 & #6).

Examples: Regeneration Cycle Step #1 - 8.0 minutes - [ 1 - - - 8.0 ]

Regeneration Cycle Step #5 - 8 1/2 minutes - [ 5 - - - 8.5 ]

Depress the Program Button once per display to advance through Regeneration Cycle Step Programming. Steps are cancelled by setting the display to 0. Remaining regeneration cycle is cancelled by setting display to OFF. The 6700 control has a separate brine tank fill cycle. Your desired salt setting must be calculated, using the blue (.25 gpm) or black (.5 gpm) rate of refill (in gpm) times your timer setting. Then using one gallon of fresh water dissolving approximately 3 lbs. of salt, calculate your refill time. Valves equipped for Variable Brining will not require a Brine Tank Refill setting. Brine Making time is typically set for 15 minutes for a gridless brine tank.

Example: lbs. salt ÷ 3 ÷ B.L.F.C. Size = refill time in minutes, 10 lbs. salt ÷ 3 ÷ .25 = 13.3 minute refill time

The **UP** and **DOWN Set Buttons** adjust these settings.

### 5. Regeneration Time

Depress the Program Button. The next display viewed is the option setting for Regeneration Time. It is identified by the red LED next to the label Regeneration Time as well as a non-flashing colon.

Example: 2 o'clock A.M. regeneration time - [ 2:00 ]

The **UP** and **DOWN Set Buttons** will adjust this value.

### Exiting This Option Setting Level

Depress the Program Button once per display until all option setting displays have been viewed.

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### Installer Notes:

1. Control Calculations - With Delayed Regeneration Valves, the control is designed to automatically calculate its reserve capacity based on daily water usage. There is no need to program in a reserve capacity.
  2. The System Capacity Option Setting should always be set to the resin bed manufacturers capacity recommendations for a given amount of salt to be used during regeneration.
  3. System Capacity and Water Hardness displays will not be able to be viewed or set with non-metered systems.
  4. Regeneration Time will not be able to be viewed or set with immediate regeneration valves.
  5. Acceptable Voltage Ranges For Reliable Control Operation:
  6. 24 Vac Valves + or - 10% 50/60Hz  
120/240 Vac Valves + 10% or - 25% 50/60Hz
-

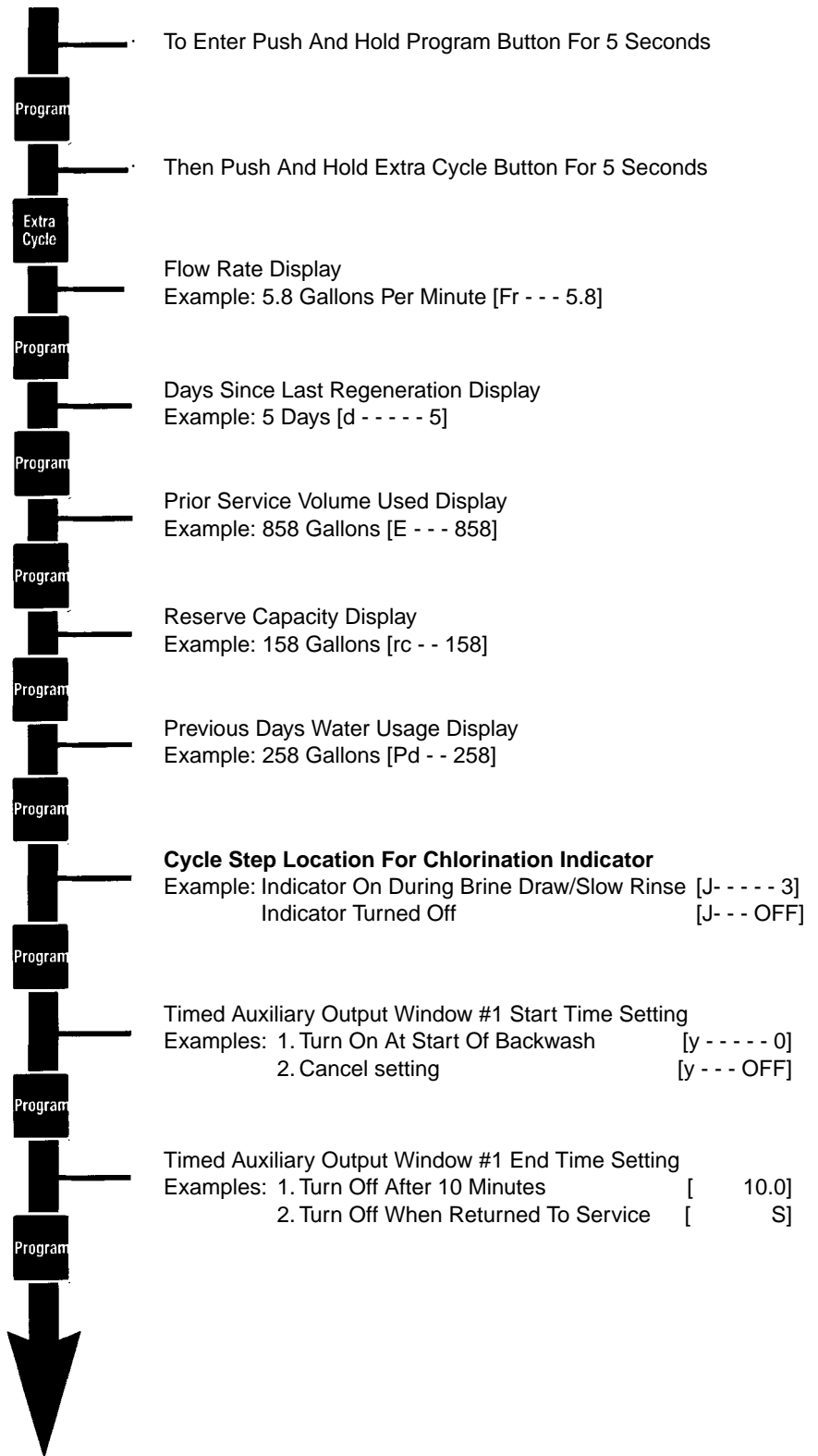
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## Option Setting Level #2 Programming Chart

### Level #2

**Note:**

1. Push Program Button Once Per Display.
2. Option settings may be changed by pushing either the Up or Down Arrow Button.
3. Depending on current valve programming certain displays will not be able to be viewed or set.



Continued On Next Page

# 3200ET Timer - V2.0

## Option Setting Level #2 Programming Chart (Cont'd.)

### Level #2 - Continued

**Note:**

1. Push Program Button Once Per Display.
2. Option settings may be changed by pushing either the Up or Down Arrow Button.
3. Depending on current valve programming certain displays will not be able to be viewed or set.

Program	Timed Auxiliary Output Window #2 Start Time Setting Examples: 1. Turn On At Start Of Brine/Rinse [r --- 10.0] 2. Cancel setting [r --- OFF] <b>Note: Setting Not Viewed On Standard 6700 or if window #1 Is Cancelled</b>
Program	Timed Auxiliary Output Window #2 End Time Setting Examples: 1. Turn Off After 60 Minutes [ 70.0] 2. Turn Off When Returned To Service [ S]
Program	Chemical Pump Output On Time Setting Examples: 1. Turn On In Service For 1 Minute [n ---- 1.0] 2. Cancel setting [n --- OFF] <b>Note: Setting Not Viewed On Valves Without Meters</b>
Program	Chemical Pump Output Volume Count Setting Example: Turn On In Service Every 100 Gallons [ 100]
Program	Regeneration Day Override Example: Override Every 7 Days [A ----- 7]
Program	Volume Override Example: Regenerate Every 850 Gallons [b --- 850] <b>Note: Water Hardness and System Capacity Settings Not Used or Viewed</b>
Program	US/metric Display Format Examples: US Format [U ----- 1] European Format [U ----- 2] Standard Metric Format [U ----- 3] Cubic Meter Metric Format [U ----- 4] Japanese Metric Format [U ----- 5]
Program	Valve Type Examples: Option Typically Not Used [o ----- 1] 6700 Valve [o ----- 2] Option Typically Not Used [o ----- 3] Option Typically Not Used [o ----- 4] Option Typically Not Used [o ----- 5]
Program	Regeneration Type Examples: Timeclock Regeneration [7 ----- 1] Meter Immediate Regeneration [7 ----- 2] Meter Delayed Regeneration (Standard Setting) [7 ----- 3] Meter Delayed Variable Brining (Inc. 3 Settings) [7 ----- 4] Resin Bed Volume Setting - Example: 1.0 Ft <sup>3</sup> [7 r -- 1.0] Salt Dosage Setting - Example: 8 lbs per Ft <sup>3</sup> [7 d --- 8] BLFC Setting - Example: 0.25 gpm [7 b --- .25] Sensor Immediate Regeneration [7 ----- 5] Minimum Signal On Time Setting: 5 Minutes [7-5 -- 5.0] Sensor Delayed Regeneration [7 ----- 6] Minimum Signal On Time Setting: 8 Minutes [7-5 -- 8.0] Option Not Typically Used [7 ----- 7] Option Not Available [7 ----- 8]

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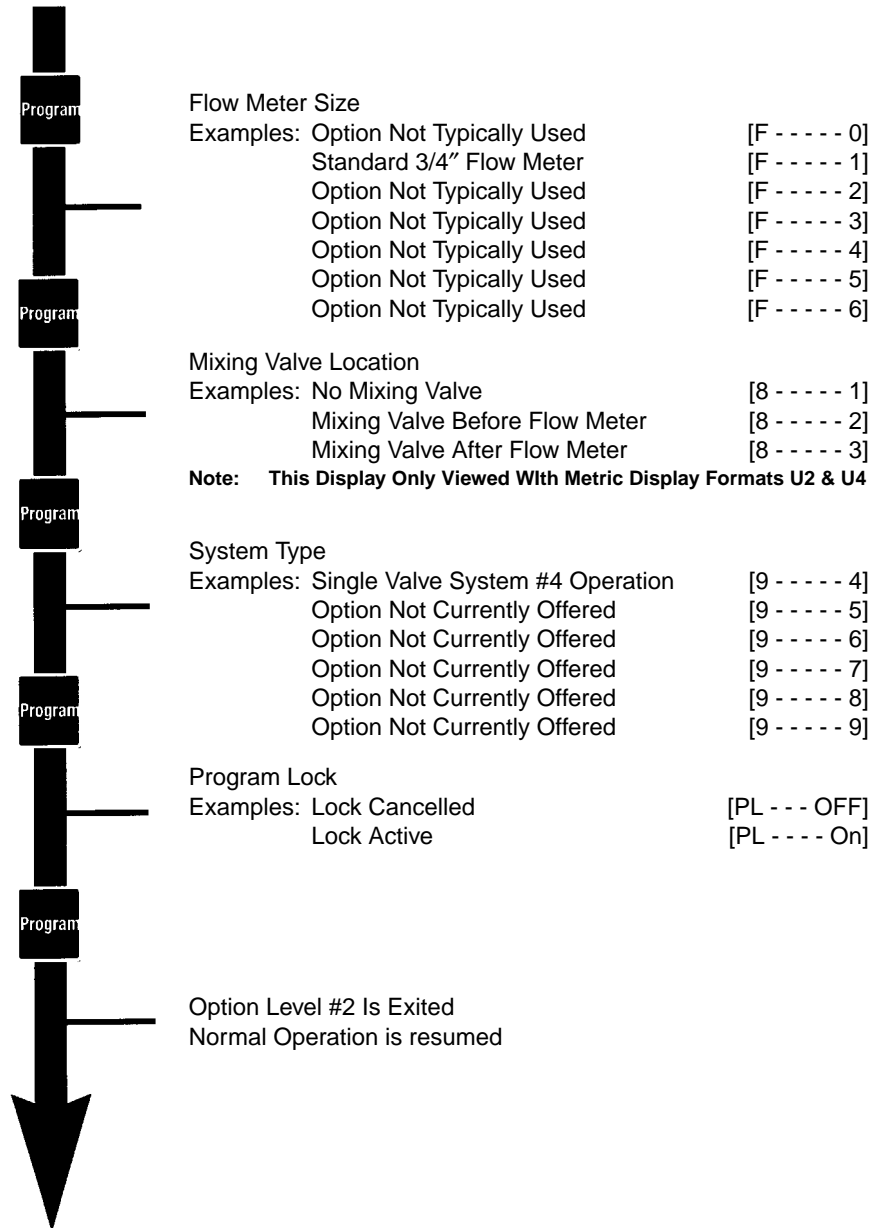
# 3200ET Timer - V2.0

## Option Setting Level #2 Programming Chart (Cont'd.)

### Level #2 - Continued

**Note:**

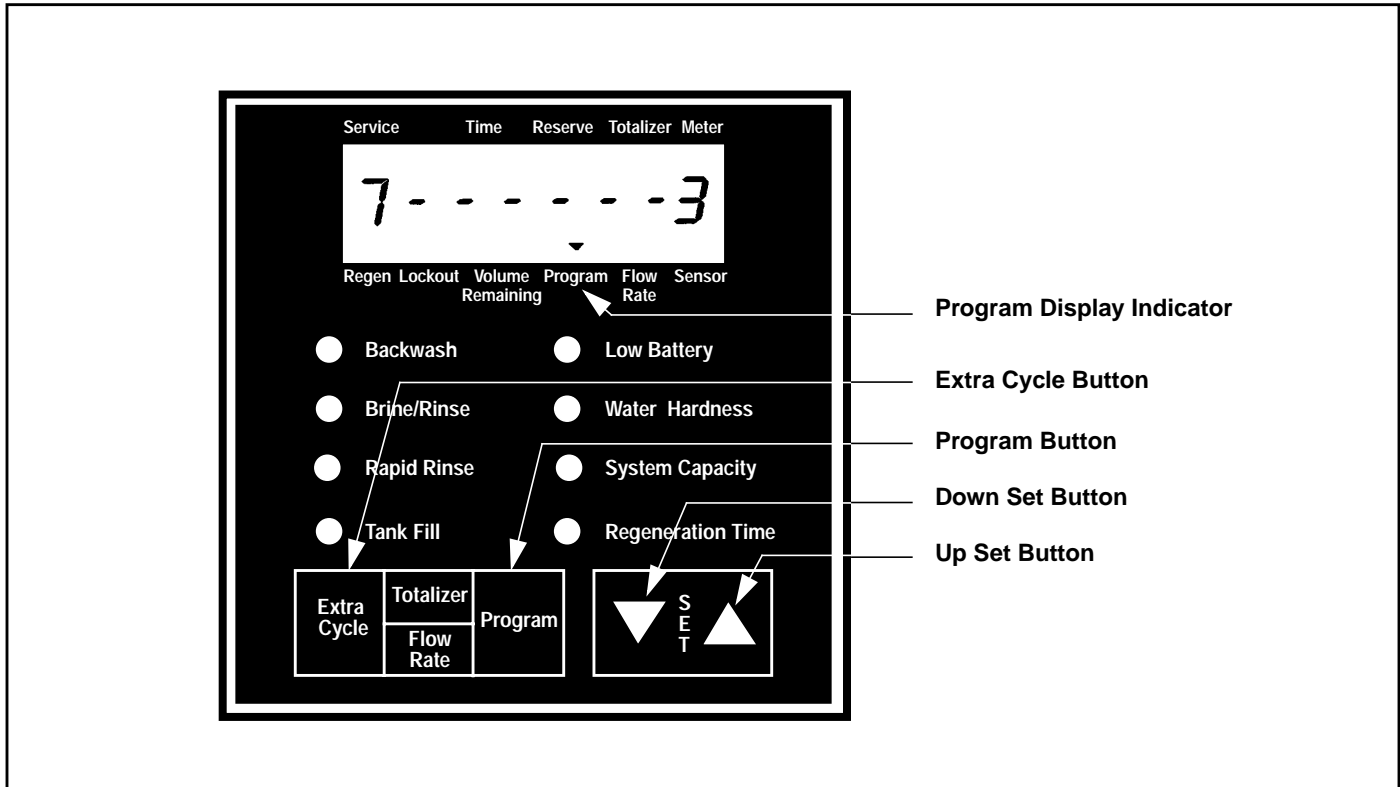
1. Push Program Button Once Per Display.
2. Option settings may be changed by pushing either the Up or Down Arrow Button.
3. Depending on current valve programming certain displays will not be able to be viewed or set.



# 3200ET Timer

## Option Setting Level #2 - Softener Manufacturer Programming

Setting up the valve during manufacturing of the softener requires access to the second level of option programming. This level includes the functioning parameters of the softener, related to actual system configuration.



### Entering Option Level #2

Depress the Program Button for 5 seconds. The Program Arrow will turn on and the first display viewed is used to set the Inlet Water Hardness. Next, depress the Extra Cycle Button for 5 seconds. Depending on current programming, certain displays or option settings will not be viewed.

#### 1. Flow Rate Display (Fr)

The first display viewed is the current flow rate of treated water through the softener. The unit of measurement used is gallons/liters per minute.

Example: 8.5 Gallons Per Minute **[Fr - - - 8.5]**

#### 2. Days Since Last Regeneration Display (d)

Depress the Program Button. The next display viewed is not an option setting. This display is used as an aid to the service person in diagnosing a valve malfunction. The number of days since the last regeneration is recorded in this display by the control. This display is identified by the letter d in the first digit.

Example: 4 days **[d - - - - 4]**

#### 3. Prior Service Volume Used Display (E)

Depress the Program Button. The next display viewed is not a option setting. This display is used as an aid to the service person in diagnosing a valve malfunction. The amount a water used the last time the softener was in service is recorded in this display by the control. The unit of measurement used is gallons/liters/cubic meters.

Example: 850 Gallons - **[E - - - 850]**



# 3200ET Timer

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## Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)

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### 4. Reserve Capacity Display (rc)

Depress the Program Button. The next display viewed is not a option setting. This display is used as an aid to the service person in diagnosing a valve malfunction. The calculated reserve capacity (in gallons/liters/cubic meters) for the present day is recorded in this display by the control.

Example: 277 gallons - [ **r c - - 277** ]

### 5. Previous Days Water Usage Display (Pd)

Depress the Program Button. The next display viewed is not an option setting. This display is used as an aid to the service person in diagnosing a valve malfunction. The previous days water usage (in gallons/liters/cubic meters) is recorded in this display by the control.

Example: 200 gallons - [ **P d - - 200** ]

### 7. Cycle Step Location For Chlorination Indicator (J)

Depress the Program Button. The next display viewed is an option setting. This display is used to set the desired regeneration cycle step where the chlorinator indicator (C) will turn on in the regeneration display. Actual control of power to a chlorinator is handled independently of this setting using a microswitch or Timed Auxiliary Output.

Examples: No Chlorinator Installed - [ **J - - - OFF** ]  
Chlorinator To Turn On During Step #2 - [ **J - - - - 2** ]

The **UP** and **DOWN Set Buttons** adjust this value.

### 8. Timed Auxiliary Output Programming (y) (r) (n)

Depress the Program Button. The next 3 displays viewed are part of a series of option settings used to program the optional relay output. These displays will not be viewed if the optional relay output is not installed. The first two settings (**y** and **r**) turn the output on / off during Regeneration only. The third (**n**) turns the output on during Service only, when a set volume of water used has accumulated. This setting will not be viewed on non-metered systems.

#### Note:

When more than one of these settings is used, it will be up to the operator to supply the switching logic necessary to operate two or three separate pieces of equipment at a time from a single relay output.

### 9. Timed Auxiliary Output Window #1 Setting (y)

This option setting consists of two displays. The first display is used to set the turn on time of the output, referenced to the start of Backwash. The second display is used to set the output turn off time, referenced again to the start of Backwash. An OFF setting cancels this setting. A set on time with a set off time of S will turn the output off at the start of Service. All settings are in minutes and output timing is synchronized with regeneration cycle timing.

Examples: Activate output at start of Step #1/Deactivate after 10 minutes - [ **y - - - - 0** ] (Start Time Display)  
[ **10.0** ] (Stop Time Display)  
Cancel setting - [ **y - - -OFF** ]

The **UP** and **DOWN Set Buttons** adjust these settings.

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## Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)

### 10. Timed Auxiliary Output Window #2 Setting (r)

Depress the Program Button. This option setting consists of two displays. The first display is used to set the turn on time of the output, referenced to the start of Backwash. The second display is used to set the output turn off time, referenced again to the start of Backwash. A OFF setting cancels this setting. A set on time with a set off time of S will turn the output off at the start of Service. All settings are in minutes and output timing is synchronized with regeneration cycle timing.

Examples: Activate output 15 mm. after the start of Step #1/Deactivate when in Service - [ r - - - 15.0 ]  
[ - - - - - S ]  
Cancel setting - [ r - - - OFF ]

The **UP** and **DOWN Set Buttons** adjust these settings.

### 11. Chemical Pump Output (in)

Depress the Program Button. This option setting consists of two displays. The first display is used to set the turn on time (in minutes) of the output. The second display is used to set the volume of water flow at which the output will turn on.

Examples: Activate output 1.0 mm. after every 200 gallons - [ n - - - - 1.0 ]  
[ 200 ]  
Activate output 1 second after every 200 gallons - [ n - - - - -P ] (Pulse Mode)  
[ 500 ]  
Cancel setting- [ n - - - OFF ]

The **UP** and **DOWN Set Buttons** adjust these settings.

### 12. Regeneration Day Override (A)

Depress the Program Button. The next display is used to set the Regeneration Day Override Option Setting. The Regeneration Day Override Option Setting sets the maximum amount of days that the conditioner can be in service without a regeneration, regardless of water usage or the lack of a sensor signal. Regeneration begins at the set regeneration time or at the previous regen time. A OFF setting will cancel this option with all regeneration types except Timeclock Regeneration. A day override setting is required for timeclock regeneration valves.

Examples: Override every 7 days - [ A - - - - - 7 ]  
Cancel setting - [ A - - - OFF ]

The **UP** and **DOWN Set Buttons** adjust this value.

### 13. Volume Override (b)

Depress the Program Button. The next display viewed is used to set the maximum amount of water that can be used before a regeneration cycle is called for. When this feature is used with delayed regeneration systems, it will be up to the programmer to determine a reserve capacity. The control will no longer keep track of the reserve capacity. This option is typically used to bypass standard reserve or capacity calculations made by the control.

Examples: Override every 700 gallons - [ b - - - 700 ]  
Override cancelled - [ b - - OFF ]

The **UP** and **DOWN Set Buttons** adjust this value.

# 3200ET Timer

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## Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)

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### 14. US/Metric Display Format (U)

Depress the Program Button. This display is used to set the desired display format for the timer to use. There are five possible settings:

**The U.S. Format** uses gallons for volume and gallons per minute for flow rate related data / displays with a 12 hour timekeeping format. Water Hardness units will be grains per gallon and Capacity in kilograms. Option settings P and 8 as well as Regeneration Types #7 and #8 will not be displayed.

Example: [U - - - - 1 ]

**The European Metric Format** uses liters for volume and liters per minute for flow rate related data / displays with a 24 hour timekeeping format. Water Hardness units will be French Degrees and Capacity in French Degree x m<sup>3</sup>.

Example: [U - - - - 2 ]

**The Standard Metric Format** uses liters for volume and liters per minute for flow rate related data / displays with a 24 hour timekeeping format. Water Hardness units will be French Degrees and Capacity in French Degree x m<sup>3</sup>. Option settings P and 8 as well as Regeneration Types #7-8 will not be displayed.

Example: [U - - - - 3 ]

**The Cubic Meter Metric Format** uses m<sup>3</sup> for volume and liters per minute for flow rate related data / displays with a 24 hour timekeeping format. Water Hardness units will be P.P.M. (mg/liter or g/m<sup>3</sup>) and Capacity in grams. Regeneration Types #7 and #8 will not be displayed.

Example: [U - - - - 4 ]

**The Japanese Metric Format** uses liters for volume and liters per minute for flow rate related data / displays with a 24 hour timekeeping format. Water Hardness units will be German Degrees and Capacity in German Degree x m<sup>3</sup>. Option settings P and 8 as well as Regeneration Types #7-8 will not be displayed.

Example: [U - - - - 5 ]

The **UP and DOWN Set Buttons** adjust this value.

### 15. Valve Type (0)

Depress the Program Button. The next display viewed is a option setting. This display is used to set the type of valve used with the control. There are four possible selections with #2 being the required setting:

Example: [ 0 - - - - 1 ] Option Typically Not Used.

**6700 Valve.** When #2 is selected the control will operate properly and all LEDs will be used. The Volume Remaining Display will not be able to count down until the regeneration cycle is complete.

Example: [ 0 - - - - 3 ] 6700 Operation

The **UP and DOWN Set Buttons** adjust this value.

### 16. Regeneration Type (7)

Depress the Program Button. This display is used to set the type of regeneration initiation. There are eight possible settings:

**Timeclock Delayed.** The timer will determine that regeneration is required based on the set regeneration time and regeneration day override settings.

Example: [ 7 - - - - 1 ]

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## Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)

**Meter Immediate.** The timer will determine that regeneration is required based on when the available volume of treated water drops to or below zero. Regeneration to begin immediately.

Example: [ 7 - - - - 2 ]

**Meter Delayed.** The control will determine that a regeneration is required based on when the available volume of treated water drops to or below the reserve capacity. Regeneration is to begin immediately at the set Regeneration Time only when service flow has not been detected. Regeneration is to be delayed, in two 10 minute sections, for up to an additional 20 minutes, with service flow. Regeneration then to begin immediately There will not be a delay if the Volume Remaining is zero.

Example: [ 7 - - - - 3 ]

**Meter Delayed Variable Brining.** The control will determine that a regeneration is required based on when the available volume of softened water drops to or below the reserve capacity. Regeneration is to begin immediately at the set Regeneration Time only when service flow has not been detected. Regeneration is to be delayed, in two 10 minute sections, for up to an additional 20 minutes, with service flow. Regeneration then to begin immediately. there will not be any regeneration delay if the Volume Remaining Display is zero. The timer will automatically program Regeneration Cycle Step #1 (Brine Fill) Time, therefore this option setting display will not be viewed. This value will be determined by the remaining unused softening capacity and the precise amount of brine (salt) required to return the softener to full capacity.

Example: [ 7 - - - - 4 ] (This option is not typically used with downflow regeneration valves)

[ 7 - - - - 1.0 ] 1.0 Cubic Feet or Liters Of Resin In Softener

[ 7 - - - - 8 ] 8 Pounds Per Cubic Feet Or Grams Per Liter Salt Dosage

[ 7 - - - - .25 ] .25 g.p.m. BLFC Size

### 17. Flow Meter Size (F)

Depress the Program Button. This display is used to set the size of the valve flow meter. This setting will not be viewed on non-metered valves.

Examples: [ F - - - - 0 ] Option Not Typically Used

[ F - - - - 1 ] Standard 3/4" Flow Meter

[ F - - - - 2 ] Standard 1.0" Flow Meter

[ F - - - - 3 ] Standard 1.5" Flow Meter

[ F - - - - 4 ] Standard 2.0" Flow Meter

[ F - - - - 5 ] Standard 3.0" Flow Meter

[ F - - - - 6 ] Non-Standard Flow Meter, Enter Pulses Per Gallon/Liter

The **UP** and **DOWN** Set Buttons adjust this value.

### 18. Mixing Valve Location (8)

Depress the Program Button. This next display is used to set where the mixing valve is located, if any. It is viewed only with the U.S./metric Display Format set to U-2 or U-4. There are three possible settings:

Examples: [ 8 - - - - 1 ] No Mixing Valve

[ 8 - - - - 2 ] Mixing Valve Before Flow Meter

[ 8 - - - - 3 ] Mixing Valve After Flow Meter

The **UP** and **DOWN** Set Buttons adjust this value.

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## Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)

### 19. System Type (9)

Depress the Program Button. The next display viewed is an option setting. This display is used to set the type of system the valve is operating in. There are four settings available:

**Single Valve/9000-9500 Regeneration** - When this option is selected, the control will operate as a stand alone unit. The control can initiate a regeneration whenever needed. When a Lockout Signal is received, the control will delay the start of regeneration until that signal is removed.

Example: [ 9 - - - - 4 ] Single Valve System #4 Operation

**Two Valve Meter or Sensor Interlocked Regeneration** - When this option is selected, the control will operate as part of a two valve interlocked system. Each control in the system will generate a Lockout Signal whenever it is in regeneration. A control will delay the start of regeneration until the Lockout Signal is removed.

Example: [ 9 - - - - 5 ] Two To Five Valve System #5 Operation

**Dual Valve Meter or Sensor Series Regeneration** - When this option is selected, the control will operate as part of a dual tank series regeneration system. The lead valve control will initiate a regeneration cycle as needed. During regeneration lead valve control will generate a Lockout Signal. Once the valve reaches Service the control will deactivate this signal. This action will signal the lag valve control to initiate a regeneration immediately. During regeneration the lag valve will also generate a Lockout Signal. This signal will delay a lead valve regeneration until the signal is removed. Only one valve will be in regeneration at a time. Lag valve controls will not display any volume or flow rate related option settings or displays.

Example: [ 9 - - - - 6 ] Two Valve System #6 Operation  
          [ 9 - 6 LEAd ] Lead Valve Selection Display  
          [ 9 - - - LAg ] Lag Valve Selection Display

**Dual Valve Meter or Sensor Alternator Regeneration** - When this option is selected, System Types #7 and #9, the control will operate as part of a two tank alternator regeneration system. During normal operation each control will be in one of 3 states: Service, Regeneration, or Standby. While in Service a control will count flow meter input pulses but not generate a Lockout Signal. During Regeneration, a control will not count flow meter input pulses but generate a Lockout Signal. When a regeneration cycle is complete, the control enters Standby State. In this state the control continues to ignore the flow meter input and monitors the Lockout Input for a valid signal from the other control to return to Service. Once this signal is received, the control in the Standby State will proceed immediately to the Service State. When a Lockout Signal is received by the control in Service, it will delay the start of regeneration until that signal is removed.

With System Type #8 (Delayed Regeneration Only) the reserve capacity calculations will not be used, instead the control in Standby will advance to Service then the other valve in Service (with zero Volume Remaining) will advance to Standby. Regeneration of this new Standby unit will then begin at the set Regeneration Time.

Example: [ 9 - - - - 7 ] Two Valve System # 7 Operation - Single Immediate Remote Meter  
          [ 9 - - - - 8 ] Two Valve System # 8 Operation - Single Delayed Remote Meter  
          [ 9 - - - - 9 ] Two Valve System # 9 Operation - Individual Immediate Remote Meter

The Timed Auxiliary Output can be set to turn on during Regeneration and Standby:

1. For the full time period that the control is in the Regeneration and Standby States by setting option y to:

Example: [ y - - - - .0 ] [ - - - - S ]

2. For the first 5 minutes that the valve is in Regeneration Step #1 by setting option y to:

Example: [ y - - - - .0 ] [ - - - - 5.0 ]

# 3200ET Timer

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## *Option Setting Level #2 - Softener Mfg. Programming (Cont'd.)*

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### 20. Program Lock (PL)

Depress the Program Button. This display is used to prevent certain displays from being viewed or set. There are two possible settings:

Examples: [ **PL - - OFF** ] Lock Cancelled

[ **PL - - - ON** ] Lock Active

#### **Settings Able To Be Reset With Lock Active -**

Water Hardness  
Water Hardness After Mixing Valve  
Regeneration Time  
Time Of Day

#### **Displays Able To Be Viewed With Lock Active -**

Flow Rate Display  
Days Since Regeneration Display  
Prior Service Volume Used Display  
Reserve Capacity Display  
Previous Days Water Usage Display

#### **Unlocking Programming -**

The only way to deactivate this feature is to push and hold the Program Button for 25 seconds. This procedure will unlock the control and permit all valid program settings to be viewed and reset as needed.

The **UP** and **DOWN Set Buttons** adjust this value.

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### **Exiting This Option Setting Level**

Push the Program Button once per display until all have been viewed.

#### **Resetting Permanent Programming Memory -**

Push and hold the Program Button for 50 seconds. This procedure will erase this and **all** previous display settings and reset them to default values. Control programming will then have to be reset as necessary.