Programming Guide For Your Irrigation Control Box
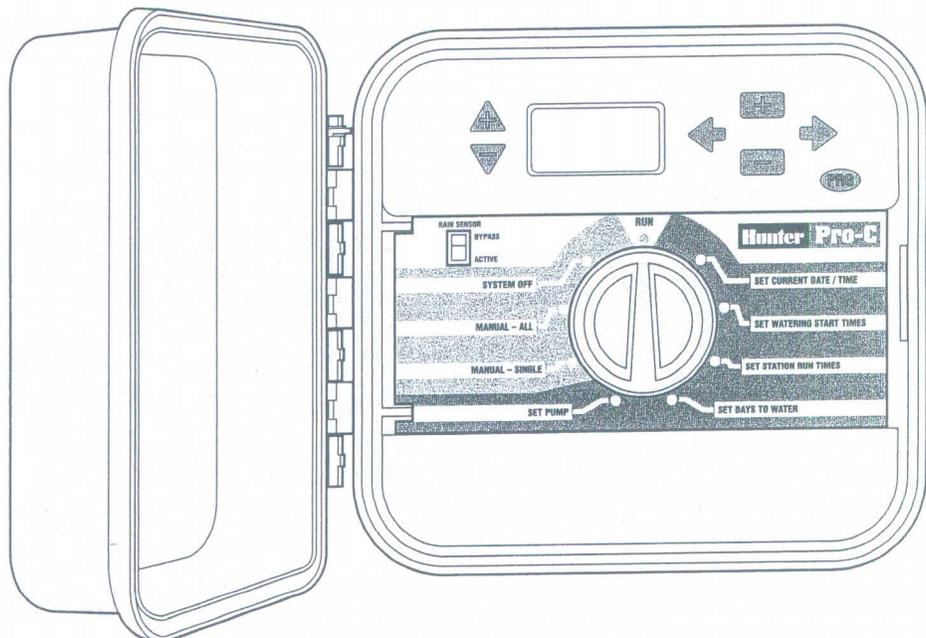
Pro-C

Residential and Light Commercial Irrigation Controllers

Indoor or Outdoor Versions

Owner's Manual and Installation Instructions

Please leave with property owner

Hunter®

CREATING A WATERING SCHEDULE ....

For most consumers, it is much easier to plan your specific watering schedule onto paper before actually programming the information into the controller. It's also handy to have a written record of your programming information for easy reference.

There are some guidelines that should be followed when determining when and how long to water. These factors are the soil type, the part of the landscape being watered, weather conditions, and the types of sprinklers being used. Since there are so many different variables that can determine your individual watering schedule, it is impossible to give an exact schedule to follow. However, we have included some guidelines to help you get started.

⚠️ **NOTE:** It is usually good to water one or two hours before sunrise. Water pressure will be at optimum levels during the early morning and the water can soak into the roots of the plants while evaporation is minimal. For most plants, watering during mid-day or in the evening may cause plant damage or possibly mildew.

⚠️ **NOTE:** Keep an eye out for evidence of under- or over-watering. Over-watering is most commonly indicated by pools of water that take a long time to soak in or evaporate, while under-watered landscapes will show signs of discoloring and dryness. Make programming changes immediately when evidence is present.

HOW TO FILL OUT THE WATERING SCHEDULE ....

Be sure to use a pencil when filling out this form. By using the included example and the information below, you should have all the information you need to construct your personal water schedule.

Station Number and Location – Identify the station number, location and the type of plant that is being watered.

Watering Day – Identify whether you want to use a calendar day, interval, or an odd or even day schedule. For a calendar day schedule circle the day of the week in which watering is desired. For an interval schedule, indicate the desired interval number.

Program Start Times – Indicate the time of day that the program will begin. Each program can have 1-4 start times. However, one start time can run an entire program.

Station Run Time – Indicate the run time (1 minute – 6 hours) for each station. Write "OFF" for any station that you do not want to operate in the program.

Keep this schedule in a safe place for quick reference later, rather than scrolling through program information on the controller.

WATERING SCHEDULE FORM (EXAMPLE) ....

HUNTER PRO-C			PROGRAM A	PROGRAM B	PROGRAM C
DAY OF THE WEEK			(M) T (W) T (F) S S	M T W T F S S	M T W T F S S
ODD/ EVEN or INTERVAL			Every 1 day	Every 3 days	Every 20 days
PROGRAM START TIMES		1	7:00 AM	9:00 AM	1:00 PM
		2	OFF	OFF	OFF
		3	OFF	OFF	OFF
		4	OFF	OFF	OFF
STATION	LOCATION		STATION RUN TIME	STATION RUN TIME	STATION RUN TIME
1	Front Lawn		20 minutes	OFF	OFF
2	Side Lawn		10 minutes	OFF	OFF
3	Back Lawn		20 minutes	OFF	OFF
4	Annuals		5 minutes	OFF	OFF
5	Front Shrubs		OFF	15 minutes	OFF
6	Back Shrubs		OFF	15 minutes	OFF
7	Trees		OFF	OFF	3 hours
8					
9					
10					
11					
12					
NOTES:					

WATERING SCHEDULE FORM..

HUNTER PRO-C		PROGRAM A								PROGRAM B								PROGRAM C						
DAY OF THE WEEK		1	2	3	4	5	6	7		1	2	3	4	5	6	7		1	2	3	4	5	6	7
INTERVAL (Choose 1 to 31 days)																								
PROGRAM START TIMES	1																							
	2																							
	3																							
	4																							
STATION	LOCATION	STATION RUN TIME								STATION RUN TIME								STATION RUN TIME						
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								
NOTES:																								

PROGRAMMING THE CONTROLLER ....

Two key features of the Pro-C that make programming a snap are its clear, easy-to-read LCD display and its easy-to-use dial design.

The Pro-C display shows time and day when the controller is idle. The display changes when the dial is rotated to indicate the specific programming information to enter. When programming, the flashing portion of the display can be changed by pressing the ⊞ or ⊟ buttons. To change something that is not flashing, press ◀ or ▶ until desired field is flashing.
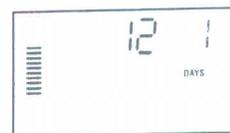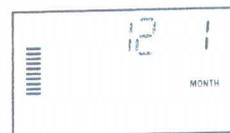
The Pro-C controller offers maximum scheduling flexibility including three programs, each with up to 4 daily start times, permitting plants with different watering requirements to be separated on different day schedules. Multiple start times permit morning, afternoon and evening watering, perfect for the establishment of new lawns and thirsty annual flowers. A built in 365-day calendar clock accommodates odd/even watering restrictions without requiring monthly reprogramming. Or, just simply designate the days of the week you want to water or use the convenient day interval watering.

⚠ **NOTE: A basic programming rule is that whatever symbol or character is flashing will be the item programmed. For instance, if the hour is flashing when setting the time, the hour can be changed or programmed. For illustration purposes, flashing characters are in GRAY type.**

Setting the Current Date and Time

1. Turn the dial to the **SET CURRENT DATE/TIME** position.

2. The current year will be flashing in the display. Use the ⊞ and ⊟ buttons to change the year. After setting the correct year, push the ▶ button to proceed to setting the month.

3. The month and day will be in the display. The month will be flashing. Use the ⊞ and ⊟ buttons to change the month. Press the ▶ button to proceed to setting the day.

4. The day will be flashing: Use the ⊞ and ⊟ buttons to change the day of the month (The day of the week is automatically selected.) Press the ▶ button to proceed to setting the time.

5. The time will be displayed: Use the ⊞ and ⊟ buttons to select AM, PM, or 24 hr. Press the ▶ button to move to hours. Hours will be flashing. Use the ⊞ and ⊟ buttons to change the hour shown on the display. Press the ▶ button to move onto the minutes. Minutes will be flashing. Use the ⊞ and ⊟ buttons to change the minutes shown in the display. The date, day, and time have now been set.

Setting Watering Start Times

1. Turn the dial to the **SET WATERING START TIMES** position.

2. The factory preset is set on program **A**. If necessary you can select program **B** or **C** by pressing the **PRG** button.

3. Use the ➕ and ➖ buttons to change the start time. (Advances in 15-minute increments.) *One start time will activate all stations sequentially in that program.* This eliminates the need to enter a start time for each station. Multiple start times in a program can be used for separate morning, afternoon, or evening watering cycles.

4. Press the ➡ button to add an additional start time, or **PRG** button for the next program.

```
6:00 AM
START TIME    PROGRAM
                 A
```

⚠ **NOTE: Regardless of the order in which the start times are entered, the Pro-C will always arrange the start times in chronological order when the dial is moved off the SET WATERING START TIMES position.**

Eliminating a Program Start Time

With the dial set to the **SET WATERING START TIMES** position, push the ➕ and ➖ buttons until you reach 12:00 AM (Midnight). From this position push the ➖ button once to reach the **OFF** position.

⚠ **NOTE: If a program has all four start times turned off, then that program is off (all other program details are retained). Because there are no start times, there will be no watering with that program. This is a convenient way to stop watering on one program only without turning the dial to the off position.**

PROGRAMMING THE CONTROLLER (continued) ....

Setting Station Run Times (Length of Watering for Each Area)

1. Turn the dial to the **SET STATION RUN TIMES** position.

2. The display will show the last program selected (**A**, **B**, or **C**) the station number selected, and the run time for that station will be flashing. You can switch to another program by pressing the **PRG** button.

3. Use the ➕ and ➖ buttons to change the station run time on the display.

4. Press the ➡ button to advance to the next station.

5. Repeat steps 4 and 5 for each station.

6. You may set station run times from 1 minute to 6 hours.

7. You can move between programs while staying on the same station. However, it is recommended that one program is completed before going on to the next program. Jumping between programs can be confusing and may result in program errors.

```
1    :20
STATION    RUN TIME
      PROGRAM
         A
```
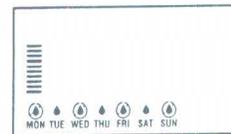
Setting Days to Water

1. Turn the dial to the **SET DAYS TO WATER** position.

2. The display will show the last program selected (**A**, **B**, or **C**). You can switch to another program by pressing the **PRG** button.

3. The controller displays currently programmed active day schedule information. This dial position provides four different water day options: you can choose to water on specific days of the week, or you can choose interval watering, or choose to water on odd days or even days. Each program can only operate using one type of water day option.

Selecting Specific Days of the Week to Water

1. Press the ➕ button to activate a particular day of the week to water (the display always starts with Monday). Press the ➖ button to cancel watering for that day. After pressing a button the display automatically advances to the next day. A ● indicates a water day. A ⊘ indicates a no water day.

```
MON TUE WED THU FRI SAT SUN
```

2. Repeat step 1 until desired days have been selected.

After programming, set dial to **RUN** to enable automatic execution of all selected programs and start times.
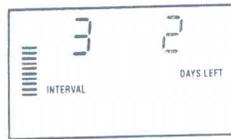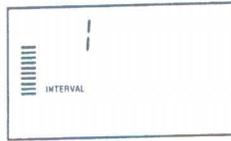
Selecting Interval Watering

This feature is convenient if you want to have a more consistent watering schedule without having to worry about the day of the week or the date. The interval you select is the amount of days between watering. The days remaining indicates how many days until the next watering. For example if you select an interval of 2 with 1 day remaining, watering will begin tomorrow at the scheduled time.

1. Press the → button with the cursor on Sunday. Interval and Days Left will appear in the display.

2. Interval is flashing press the ⊞ button. The display will increment the interval.

3. Press →, the number of days left will be flashing. Use the ⊞ and ⊟ buttons to select the number of days left until the next watering.
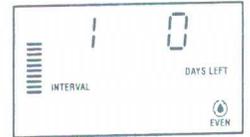
After programming, set dial to **RUN** to enable automatic execution of all selected programs and start times.

Selecting Odd or Even Days to Water

This feature uses a numbered day of the month for watering instead of specific days of the week (odd days 1st, 3rd, 5th, etc.; even days 2nd, 4th, 6th, etc.).

1. Using the instructions for **Interval Watering**, set the interval to one.

2. Press the → button until the cursor is on either **EVEN** or **ODD** in the display. Select whichever you choose as **No Water Days** by pressing the ⊟ button. If you select **ODD** as **No Water Days** then the controller will only water on even days of the month. Conversely, if you select **EVEN** as **No Water Days** then the controller will only water on odd days of the month. You can also set particular days of the week as no water days using this feature (see Advanced Features on page 27).

⚠ **NOTE:** The 31st of any month and February 29th are always "off" days if Odd watering is selected.

After programming, set dial to **RUN** to enable automatic execution of all selected programs and start times.

Weather Sensor Bypass

With this built-in feature, there is no need for an additional manual bypass switch when using rain sensors (the Pro-C works with the Hunter Mini-Clik®, plus some other rain, wind, and freeze sensors on the market today). If the system is preventing system operation (or no sensor is installed and the switch is in the **ACTIVE** position), **SENSOR OFF** will be displayed. Simply move the switch to **BYPASS** and the weather sensor will be bypassed. This allows you to use the system.

PROGRAMMING THE CONTROLLER (continued) ....

Run

After programming is complete, turn the dial to **RUN** to enable automatic execution of all selected programs and start times.

System Off

Valves currently watering will be shut off after the dial is turned to the **SYSTEM OFF** position for two seconds. All active programs are discontinued and watering is stopped. To return controller to normal automatic operation, simply return dial to **RUN** position.
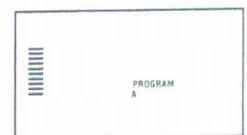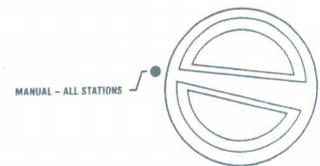
Manually Run a Single Station

1. Turn the dial to the **MANUAL-SINGLE STATION** position.

2. Station run time will flash in the display. Use the → button to move to the desired station. You may then use the ⊞ and ⊟ buttons to select the amount of time for a station to water.

3. Turn the dial to the **RUN** position to run the station (only the designated station will water, then controller will return to automatic mode with no change in the previously set program).

Manually Run All Stations

1. Turn the dial to **MANUAL-ALL STATIONS**.

2. You can select program **A**, **B**, or **C** by pressing the PRG button.

3. Press the → button until desired starting station is displayed.

4. Station run time will flash in the display. Use the ⊞ and ⊟ buttons to select the amount of run time for the station to water if different from the run time displayed.

5. Use the → button to move to the next station.

6. Repeat steps 3 and 4 to customize each station if desired.

7. Press the → button until desired starting station is displayed.

8. Return the dial to **RUN** (custom program will water the entire program beginning with the station number last left in the display, then controller will return to automatic mode with no change in the previously set program).

⚠ **NOTE:** The station that is on the display when you turn the dial to **RUN**, will be the first station to run. The controller will then proceed to water in sequential order only. It will not water previous stations.

One Touch Manual Start and Advance

You can also activate all stations to water without using the dial.

1. Hold down the ➡ button for 2 seconds.

2. This feature automatically defaults to program **A**. You can select program **B**, or **C** by pressing the (PRG) program.

3. The station number will be flashing. Press the ⬅ or ➡ button to scroll through the stations and use the ➕ and ➖ buttons to adjust the station run times. (If no buttons are pressed during step 2 or 3, the controller will automatically begin program **A**.)

4. Press the ➡ button to scroll to the station you wish to begin with. After a 2 second pause, the program will begin.
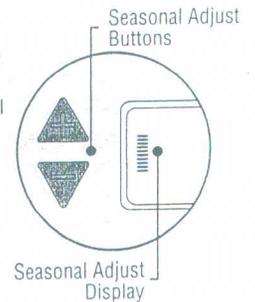
This feature is great for a quick cycle when extra watering is needed or if you would like to scroll through the stations to inspect your system.

Seasonal Adjustment

Seasonal Adjust is used to make global run time changes without re-programming the entire controller. This feature is perfect for making small changes that are necessary as the weather changes without reprogramming the entire controller. For instance, hotter times of the year may require a bit more water. Seasonal adjust can be increased so that the stations will run longer than the programmed time. Conversely, as Fall approaches, the seasonal adjust can be reduced to allow for short watering durations.

To use the seasonal adjust, simply press the up or down seasonal adjust buttons to set the percentage desired. Each bar on the graph can be adjusted from 10% to 150% of original program. The season adjust can be changed at any time regardless of the programming dial position. To view the new adjusted run time, simply turn the rotary dial to the Set Run Times position, the displayed run time will be updated accordingly as the seasonal adjustment is made.

> ⚠ **NOTE:** The controller should always be initially programmed in the 100% position.
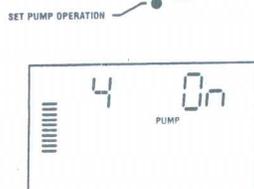
ADVANCED FEATURES

There are three advanced features available to customize the Pro-C to more complex watering requirements. One of these features is "hidden" to make accidentally programming them nearly impossible.

1) Set Pump/Master Valve Operation

The default is for all stations to have the master valve/pump start circuit **ON**. The master valve/pump start can be set **ON** or **OFF** by station, regardless of which program the station is assigned. This feature may be utilized on systems where it is desirable for a booster pump not to operate with certain zones.
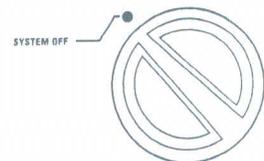
To program pump operation:

1. Turn the dial to **SET PUMP OPERATION** position.

2. Press the ➕ or ➖ buttons to toggle the master valve/pump start **ON** or **OFF** for the specific station.

3. Press the ➡ button to advance to the next station.

4. Repeat steps 2 and 3 for all necessary stations.

2) Programmable Rain Off

This feature permits the user to stop all programmed waterings for a designated period from 1 to 7 days. At the end of the programmable rain off period, the controller will resume normal automatic operation.

1. Turn the dial to the **SYSTEM OFF** position.

2. Press the ➕ button and a 1 will be displayed and the **DAYS LEFT** icon will illuminate. The 1 will be blinking at this point.

3. Press ➕ as many times as needed to set the number of days off desired (up to 7).

4. To validate this setting (and to make sure the controller comes back on after the period is over), turn the dial back to the **RUN** position at which time, **OFF, a number** and the **DAYS** icon all remain on.

5. Leave the dial in the **RUN** position.

The days off remaining will decrease at midnight of each day. When it goes to zero, the display will show the normal time of day and normal irrigation will resume at the next scheduled start time.
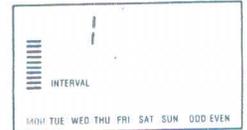
3) Setting Event Day(s) Off

Programming in a No Water Day(s) is useful to inhibit watering on mowing days, etc. For instance, if you always mow the lawn on Saturdays you would designate Saturday as a **No Water Day** so you are not mowing wet grass.

1. Turn the dial to the **DAYS TO WATER** position.

2. Enter an interval watering schdule as described on page 24.

3. With the days left flashing, press → button to display the days of the week. **MON** will be flashing.

SET DAYS TO WATER

4. Use the → button until the cursor is at the day of the week you wish to set as a **No Water Day**.

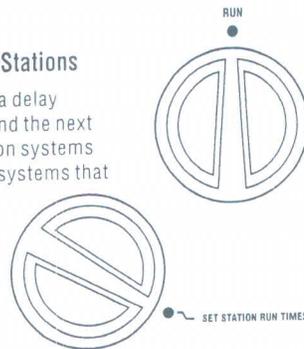5. Press the ▬ button to set this day as a no water day. The ⊛ will illuminate over this day.

6. Repeat steps 4 and 5 until all desired event day(s) are off.

HIDDEN FEATURES ....

1) Programmable Delay Between Stations

This feature allows the user to insert a delay between when one station turns off and the next station turns on. This is very helpful on systems with slow closing valves or on pump systems that are operating near maximum flow or have slow well recovery.

1. Start with the dial in the **RUN** position.

2. Press and hold the ▬ button down while turning the dial to the **SET STATION RUN TIMES** position.

RUN

SET STATION RUN TIMES

3. Release the ▬ button. At this point the display will show a delay time for all stations in seconds, which will be blinking. The **DELAY** icon shall also be lit at this time.

4. Press the ⊞ and ▬ buttons to increase or decrease the delay time between 0 and 59 seconds in 1 second increments and then in one minute increments up to four hours. **Hr** will be displayed when the delay changes from seconds to minutes and hours.

5. Return the dial to the **RUN** position.

SEC : 0

DELAY

RUN

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HIDDEN FEATURES (continued) ....

⚠ **NOTE:** The Master Valve/Pump Start circuit will operate during the first 15 seconds of any programmed delay to aid in the closing of the valve and to avoid unnecessary cycling of the pump. It is recommended that a pressure relief valve be installed on the system should this one minute be too long for a particular system. Consult your pump contractor or supplier for details.

2) Test Program

The Pro-C allows the user a simplified method for running a test program. This feature operates each station in numerical sequence, from the lowest to the highest. You can start with any station. This is a great feature to check the operation of your irrigation system.

To initiate the test program:

1. Press and hold the ⊕ button. The station number will be flashing.

2. Press the ← or → button to scroll to the station you would like the test program to start with. Use the ⊞ and ▬ button to set a run time of up to 15 minutes. The run time needs to be entered only once.

3. After a 2 second pause, the test program will begin.

3) Hunter Quick Check™

Irrigation professionals are continuously looking for ways to more efficiently and effectively diagnose programs in the field. Instead of having to physically check each field wiring circuit for potential problems, the user can run the Hunter Quick Check™ circuit test procedure. This circuit diagnostic procedure is very beneficial because of its ability to aid in quickly identifying "shorts" commonly caused by faulty solenoids or when a bare common wire touches a bare station control wire.

To initiate the Hunter Quick Check test procedure; Press the ⊞, ▬, ← and → buttons simultaneously. In the standby mode, the LCD will display all segments (helpful when troubleshooting display problems). Press the ⊞ button to begin the Quick Check test procedure. Within seconds, the system searches all stations in an effort to detect a high current path through the station terminals. When a field wiring short is detected, an ERR symbol preceded by the station number will momentarily flash on the controller LCD display. After the Hunter Quick Check completes running this circuit diagnostic procedure, the controller returns to the automatic watering mode.

4) Clearing Controller's Memory/Resetting Controller

If you feel that you have misprogrammed the controller, there is a process that will reset the memory to factory defaults and erase all programs and data that have been entered into the controller. Press the →, ▬, and the ⊕ buttons simultaneously and hold them down, while they are being held down, press and release the RESET button on the back of the front panel. Then release the →, ▬, and the ⊕ buttons. The display should now show 12:00 am. All the memory has been cleared and the controller may now be reprogrammed.

TROUBLESHOOTING GUIDE ....

PROBLEM	CAUSES	SOLUTIONS
There is no display.	Check AC power wiring.	Correct any errors.
The display reads "ERR".	Electrical noise is entering the system.	Check the SmartPort® wiring harness. If the wires were extended then they will need to be replaced with shielded cable. Contact your local distributor for information on shielded cable
The display reads "P ERR".	There is a fault in the wire to the pump start or master valve.	Check the master valve or pump start wire for continuity. Replace or repair the shorted wire. Check that all wire connections are good and water tight.
The display reads a station number and ERR, such as "2 ERR".	There has been a fault with the wire leading to that station.	Check the station wire for continuity. Replace or repair shorted wire. Check that all wire connections are good and water tight.
The display reads "NO AC".	There is no AC power present (the controller is not receiving power).	Check to see if the transformer is properly installed.
The display reads "SENSOR OFF".	The rain sensor is interrupting irrigation or the sensor jumper is not installed.	Slide the Rain Sensor switch on front panel to the **BYPASS** position to bypass rain sensor circuit, or install the sensor jumper.

TROUBLESHOOTING GUIDE (continued) ....

PROBLEM	CAUSES	SOLUTIONS
Rain sensor will not shut off system.	Incompatible rain sensor or the jumper was not removed when sensor was installed.	Make sure sensor is micro-switch type such as Mini-Clik® (Rain Bird® Rain Check is not this type and will not work). Check that the the jumper has been removed from the the **SEN** terminals. Confirm proper operation (see "Testing a Weather Sensor" on page 14).
The controller does not have a start time for each station.	Programming error, dial in incorrect position.	Be sure the dial is in correct position. Total number of stations can be easily checked by placing diai in **SET STATION RUN TIMES** position and pressing the back arrow.
The controller is continuously watering, even when it should not be on (cycling repeatedly).	Too many start times (user error).	Only one start time per active program is required. Refer to "Setting Watering Start Times" on page 23.