

Chapter 8

Manual System Control

Manual control is used to operate a program, a single station, group of stations or all stations. Manual control is also used to select the rain shutdown option, which stops watering for an indefinite amount of time.

There are four options.

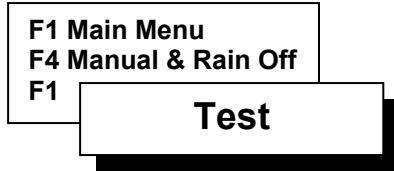
- Select TEST to operate all stations sequentially for a selected length of time. The TEST mode provides extensive information showing both the electrical current and the gallons per minute used.
- Select MULTI-STATION to manually control several stations at once. This mode allows independent control of the station and the master valve and/or pump.
- Select STATION to manually control a single station. This mode turns on any station and automatically selects the proper master valve and pump.
- Select RAIN OFF to stop watering for up to an indefinite amount of time.



F1=Main Menu
F4=Manual & Rain Off

MANUAL:	F1 =TEST	F2 =MULTI-STATION	
F3 =STATION	F4 =RAIN OFF	↑	

Figure 113: Manual Main Menu



Test

Manual test mode allows the user to automatically advance from station to station using manually entered run time, while displaying valve solenoid electrical current for each station, as well as station flow in GPM.

Use Test to operate all stations sequentially for a specified length of time.

Procedure

Step 1 Advance to the Test Time Per Station screen as follows:

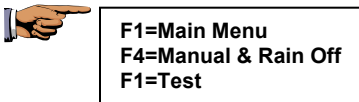
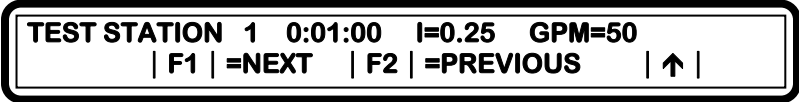


Figure 114: Operation Time

Step 2 Enter the run time. Enter the run times in Hour: Minutes (HH:MM) format.

Press ENTER key.

The test starts with the following display:



```
TEST STATION 1 0:01:00 I=0.25 GPM=50
| F1 | =NEXT | F2 | =PREVIOUS | ↑ |
```

Figure 115: Program Testing

The screen displays:

- Test Station Number
- Count-down of the specified run time
- Electrical current in amps (I=X.XX) drawn by the field valve solenoid
- Flow in Gallons Per Minute (GPM)

When completed, the controller is incremented to the next station and the test is repeated. The completion of the last station returns to the Manual Main Menu screen.

Step 3 Press F1=NEXT anytime during the test routine to turn off the current station and turn on the next sequential station, if any.

Step 4 Press F2=PREVIOUS anytime during the test routine to turn off the current station and turn on the previous station, if any.

Note: *Prior to a station turning on, the station is analyzed by the controller to determine if the station is used in an existing program.
If the station is used in a program and the program includes a master valve or pump, the controller will activate the master valve/pump with the station.
If the station is not used by any program, no master valve or pump will be activated for that station.*

This completes the Manual Test procedure.

Press the QUIT key to return to the base menu.



Multi-Station

Manual multi-station mode allows any single station or output to be turned on individually or in combination with any other station(s). Valve solenoid electrical current is displayed. Use Multi-Station to manually control several stations at once. Multi-Station can also be used to operate stations independent of any Master Valve or Pump.

Multi-Station is additionally useful in analyzing problems by locating defective stations or devices (refer to Multi-Station Diagnostics procedure, page 8-9).

Procedure

Step 1 Proceed to the Multi-Station option display as follows:

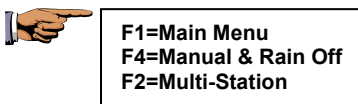


Figure 116: Multi-Station Options

The screen displays two options:

- Select **STATION ON CONCURRENTLY** to operate several stations at the same time or to run a station independent of any Master Valve and/or Pump.
- Select **STATION ON SEQUENTIALLY** to operate each station in sequential order.

Step 2 Select F1=STATION ON CONCURRENTLY.

Step 3 Enter the Run Time, then press ENTER. Run time must be between 0 and 59 minutes.

Step 4 Enter the station number. The number must be between 1 and 48, then press ENTER. The station will turn on.

Step 5 Enter zero (0X) to select the master valve/pump.
01 = MV1
02 = MV2
03 = N.O. MV
04 = Pump

Step 6 Enter additional station numbers as necessary. Stations selected are shown on the display.

Note: Stations may be alternately turned On/Off (toggled) by re-entering the station number followed by the ENTER key.

At the end of the run time, the Multi-Station Option menu is displayed, or presses the Up Arrow key to display the previous menu.

Step 7 **Manually Entered Program**

Allows user to enter a one-time program to be run immediately or scheduled for later in the day. The

manual program is independent of automatic programs and will start only one time. To manually enter a consecutive list of stations to sequentially run one after the other:

Select F2=STATION ON SEQUENTIALLY.



Figure 117: Station on Sequentially

Note: This one-time program will execute either immediately or at a future time. Once executed, the stations must be re-entered in order to operate again.

Four options are given:

- Select ENTER STATIONS to enter the station numbers to be turned on.
- Select CLEAR ALL to remove all stations from sequential manual control.
- Select START NOW to start manual operation immediately.
- Select START LATER to enter a time for the stations to be operated.

Step 8 Select F1=ENTER STATIONS.
Enter the station number. The number must be between 1 and 48. Then press the ENTER key.

Note: *The maximum number of stations is determined by the total stations installed in the associated satellite controller. The maximum number will appear on the Station Number Entry Display screen.*

- Step 9** Enter the Run Time. Run time must be in Hour: Minutes (HH:MM) format, then press the ENTER key.

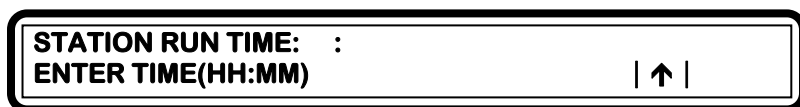


Figure 118: Station Run Time

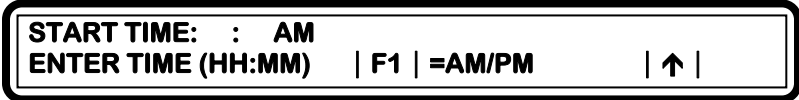
- Step 10** Enter additional station numbers and run times, as necessary.
You may enter up to 10 stations. If the station is not used by a program or ISC, you are then prompted to select whether the Master Valve is to be used with the station.
- Step 11** If required; choose a selection from the four Master Valve options:
F1=MV1
F2=MV2
F3=N.O.
F4=None
- If a Master Valve is selected, select one of the two Pump options:
F1=Pump
F2=None
- Step 12** Press the Up Arrow key to return to the Station On Sequentially menu.

Clear All- If a programming error is made, select:
F2=CLEAR ALL.
All station numbers and run times are cleared.

Return to F1= ENTER STATIONS and re-enter the correct stations and run times.

Step 13 The Start Now option immediately executes the entered stations.
Select F3=START NOW. The stations selected are run in numerical order.
When completed, the screen returns to the previous menu.

Step 14 Start Later postpones or delays the manual execution.
Select F4=START LATER.



START TIME: : AM
ENTER TIME (HH:MM) | F1 | =AM/PM | ↑ |

Figure 119: Start Later Time

Step 15 **Enter the start time.**
Enter times in 12 hour or 24 hour format.
If 12 hour time format is selected, use the F1=AM/PM toggle key to select AM or PM.

To change time format, go to Setup Controller, User Options, Time/Date.
Press ENTER. The base menu is displayed.
The stations will turn on at the specified time in a sequential fashion.

Multi-Station Diagnostics

Using Multi-Station for diagnostics is an effective tool in locating station field wiring problems. Detected problems that produce warning messages may be checked and isolated through manual testing. Warning messages displaying failures in stations, Master Valves/Pump, etc. will indicate the specific stations and devices that were running at the time of failure. The Multi-Station feature exercises the stations or devices which isolates the specific problem area.

Example: Assume a warning condition occurred as the result of running an automatic program. The warning appears in the display as follows:

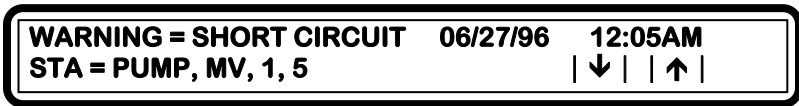


Figure 120: Warning, Short Circuit

The warning indicates that the Pump, Master Valve 1, station 1 and station 5 were all running at the time of failure. A short circuit condition may exist in any of the listed items. The following procedure provides a way to isolate which output is shorted:

Diagnostic Procedure

- Step 1** Examine the warning message to identify station numbers, Master Valves/Pump, etc. Record all identified items.
If multiple short circuit warnings appear, the problem is most likely a short in the Master Valve and/or Pump circuit.

Step 2 Advance to the Multi-Station option display as follows:



F1=Main Menu
F4=Manual & Rain Off
F2=Multi-Station



Figure 121: Multi-Station Options

Step 3 Select F1=STATION ON CONCURRENTLY. The following screen is displayed:



Figure 122: Run Time Entry

Step 4 To run for 10 minutes, enter 10 then press ENTER. The following screen is displayed:

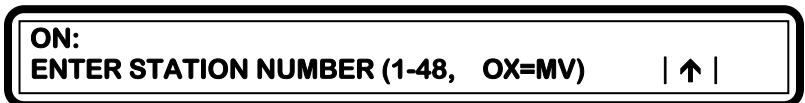


Figure 123: Station/Device Entry

Step 5 The Master Valve/Pump is selected by any number between 1 and 4 which is preceded by a 0 (zero). The Master Valve/Pump selections are:

- MV1=01

- MV2=02
- N.O.=03
- Pump=04

Enter the station or device numbers from the warning display, one at a time. Press the ENTER key after each entry. As each entry is made, the result appears on the display, as depicted in Figure 8-12.

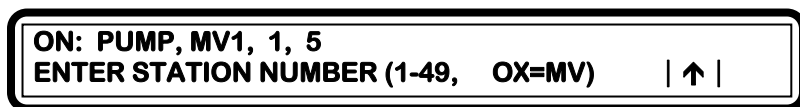


Figure 124: Station/Device Entry

Example: Enter the following short circuit warnings:

```
04 <ENTER> (pump)
01 <ENTER> (MV1)
  1 <ENTER> Station 1
  5 <ENTER> Station 5
```

When a problem is detected in a station or device, the Multi-Station operation is immediately aborted and the display returns to the base menu. The base menu will then display the warning.

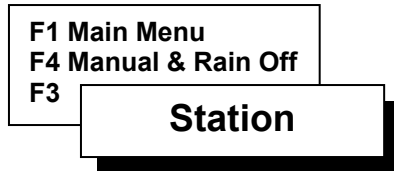
Step 6 The station or device is now identified and can be corrected accordingly.

Step 7 **IMPORTANT:** To clear all warnings from the base screen, select the F2=WARNING to display the first problem in the list. Continue to press the Down Arrow to display any additional warnings, if present.

After the last warning is displayed, press F1=CLEAR REPORT MESSAGES to Clear Report Messages. All problems in the list are erased.

This completes the Multi-Station Diagnostic procedure.

Press the QUIT key to return to the base menu.



Station

Manual station feature turns on any station for a specified time and automatically selects usage of the proper Master Valve and/or Pump for this station. The valve solenoid electrical current is displayed.

Use Station to manually control a single station and/or sequence through the stations using the next/previous station key prompts.

Procedure

Step 1 Advance to the station Number Entry screen as follows:



F1=Main Menu
F4=Manual & Rain Off
F3=Station

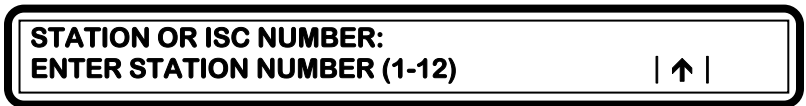


Figure 125: Station Number Entry

Step 2 Enter the station or ISC number then press ENTER. The following option screen is displayed:



Figure 126: Station Options

There are two options.

- Select TURN ON STATION to turn on the selected station.
- Select CANCEL ISC STATION to cancel operation of an Individual Station Control (ISC) station.

Step 3

Select F1=TURN ON STATION.
Enter the run time in Hour: Minutes (HH:MM) format. Then press ENTER.

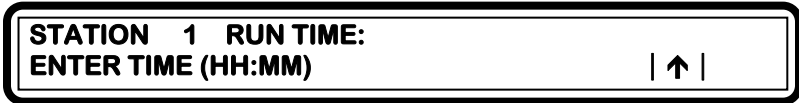


Figure 127: Run Time Entry

The station will start. The screen displays the following information:

- Station Number
- Station On/Off Status
- Count-down of Run Time
- Master Valve/Pump (if applicable)
- Electrical current in amps (I=X.XX)

STATION 1=ON	0:04:25	I=0.05
F1 =ON/OFF	F2 =NEXT	F3 =PREVIOUS ↑

Figure 128: Station Run Status

Note: Prior to a station turning on, the station is analyzed by the controller to determine if the station is used in an existing program.

If the station is used in a program and the program includes a Master Valve or Pump, the controller will activate the Master Valve or Pump with the station.

If the station is not used by any program, no Master Valve or Pump will be activated for that station.

Step 4 F1=ON/OFF

The F1=ON/OFF toggle key alternately turns the station on and off.

Press F1=ON /OFF and verify that the station status changes accordingly.

The run time will continue to count down whether the station is on or off.

Step 5 F2=NEXT

The F2=NEXT key turns off the current station and turns on the next station. The process continues until the last station of the controller is reached.

Press the F2=NEXT key and verify that the next station turns on.

The Run Time will continue to count down regardless of station number.

Controllers are equipped with station configurations that range from 6 to 48 in increments of six stations. If the last station is displayed, the F2=NEXT key advances to station 1.

Step 6 F3=PREVIOUS

The F3=PREVIOUS key turns off the current station and turns on the previous station. If currently at station 1, the F3=PREVIOUS key decrements to the last station in the controller configuration. The Run Time will continue to count down regardless of the station number.

Step 7 Press the Up Arrow to return to the Manual On/Off menu options.



Figure 129: Manual Operations Menu

This completes the Manual Operations procedure.

Press the QUIT key to return to the base menu.



Rain Off

Use the Rain Off mode to stop watering for either a programmed amount of days or to turn off the controller for an indefinite amount of time.

Procedure

Step 1 Proceed to the Rain Off Option menu as follows:

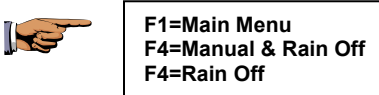


Figure 130: Rain Off

There are three options:

- Select RAIN SHUTDOWN to stop all watering indefinitely until manually returned to the automatic mode.
- Select NO WATER WINDOW to enter a period of time (up to 23 hours and 59 minutes) to establish a time period during the day when watering is not allowed.
- Select PROGRAMMABLE RAIN SHUTDOWN to stop watering from one to seven days.

Step 2 Select F1=RAIN SHUTDOWN.



Figure 131: Rain Shutdown

Press F1=ON to place the controller in rain shutdown mode.

Warning:



When rain shutdown is ON, No Watering will occur (assuming the program has rain shutdown enabled. See Setup, Program, Rain Shutdown, Chapter 4).

Note: *During rain shutdown, the base screen displays "RAIN SHUTDOWN" in place of the valid programs list.*

To start automatic watering operations again, rain shutdown mode must be turned Off.

Step 3 Press F2=OFF to return the controller to automatic mode.

Step 4 If a no water window is desired, select F2=NO WATER WINDOW.

NO WATER WINDOW selects a period of time (up to 23 hours and 59 minutes) to establish a time period during the day when watering is not allowed.

Enter the start time for when the no watering period is to occur in Hour: Minutes (HH:MM) format.

If 12 hour time format is selected for the controller, use F1=AM/PM toggle key to select AM or PM, and then press ENTER.

START TIME FOR WINDOW: 5:00 PM
ENTER TIME (HH:MM) | F1 | =AM / PM | ↑ |

Figure 132: No Water Window Time

Enter the end time for no watering period to occur in Hour: Minutes (HH:MM) format, then press ENTER.

Note: Any scheduled start times which occur during the no water window period will be ignored. Also, attempting to start a program with the PROGRAM ON/OFF key will have no effect.

- Step 5** Programmable Rain Shutdown allows a controller to be off for a specified number of days. Select F3=PROGRAMMABLE RAIN SHUTDOWN.

NUMBER OF RAIN SHUTDOWN DAYS: 3
ENTER NUMBER OF DAYS (1-7) | ↑ |

Figure 133: Programmable Rain Shutdown

Enter the number of days for no watering (rain shutdown), then press ENTER.

The Manual On/Off menu options are displayed.

Press the QUIT key to return to the base menu.

Once programmable rain days have been entered, the base menu shows RAIN SHUTDOWN DAYS LEFT=X, where X is the number of programmed days entered.

This number automatically decrements at 12:00 AM each day.

Note: *Non irrigation programs are not affected by rain shutdown and will continue to operate as programmed.*

This completes the procedure for Manual Rain Off.