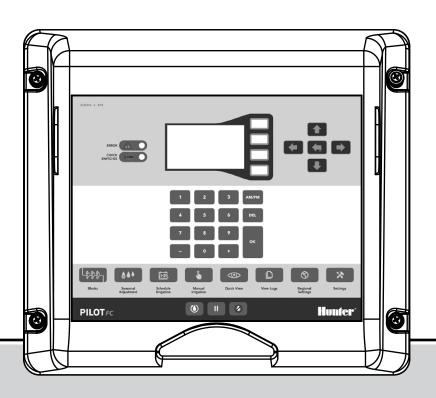
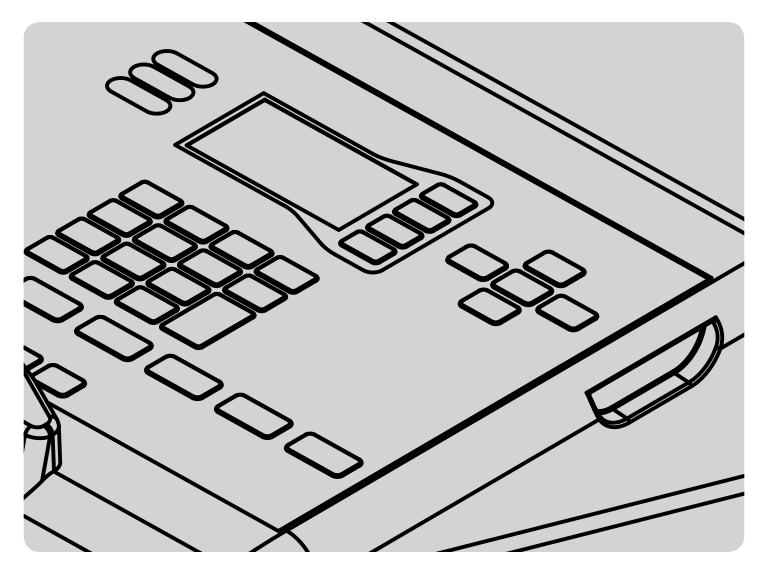
# **PILOT-FC**









# **TABLE OF CONTENTS**

QUICK START	SETTINGS1
OVERVIEW3	EasyRetrieve™
SCHEDULE IRRIGATION	Module Information Date and Time Delay between Stations
Create a Block	Password Display Contrast
MANUAL IRRIGATION	CENTRAL CONTROL SETTINGS
SAFETY TOGGLE™ SWITCHES9	SPECIFICATIONS
SEASONAL ADJUSTMENT	Dimensions Electrical Features and General Specifications
QUICK VIEW	FCC NOTICE
RAIN SHUTDOWN	
PAUSE	
VIEW LOGS	
REGIONAL SETTINGS	

#### **QUICK START**

#### Set Date and Time

- 1. Press the SETTINGS >> button.
- 2. Select CONTROLLER SETTINGS then SET TIME.
- 3. Set the date and time.

#### **Create Schedules**

- 1. Press the SCHEDULE IRRIGATION button.
- Select WATER DAYS.
- 3. Enter a schedule number.
- 4. Use the OPTION C button to select a type of schedule.
  - Water all Days: Schedule will run every day.
  - Days of the Week: Schedule will run on selected days of the week.
  - **Skip Days**: Schedule will run according to interval such as every other day.
  - Manual Only: Schedule can only be run manually and will not be given a start time.
- 5. Press the BACK button.
- 6. Select START TIMES.
- 7. Use the keypad to enter a schedule number. In this case it is the same schedule number used in step (3).

- 8. Use the OPTION © button to choose a start time option.
  - Auto: Schedule starts at the time entered.
  - Start Plus Repeats: Schedule starts at the time entered then repeats the indicated number of times.
  - Start to End: Schedule starts at the time entered then repeats as many times as necessary until the entered end time.
- 9. Press the BACK button.
- 10. Select RUNTIMES.
- Enter runtimes for each station (STA), block (BLK) or delay (DLY) you want in this schedule. Use the +/- buttons to choose STA, BLK or DLY.
- 12. Repeat these steps for each schedule you want to create.
- 13. The field controller is now ready to water automatically and will run stations at the scheduled times.

#### **OVERVIEW**

The PILOT-FC controller features a large display for system status as well as function buttons for the most commonly used features.

- White Buttons: White buttons to the right of the display are used to select among options as you work with the controller.
- Arrow Buttons: Arrow buttons are used to move around within the display.
- Back Button: The BACK button takes you back to the previous screen.

- Numeric Keypad: The numeric keypad is used to enter numbers when needed.
- +/- Buttons: The buttons can be used instead of the numeric keypad to quickly increase and decrease values.
- **DEL Button**: The DEL button is used to erase information typed in error.
- AM/PM Button: The AM/PM button on the numeric keypad is used to choose between morning and evening when entering a time on field controllers where the 12-hour clock option is selected.

NOTE: Settings are saved automatically so there is no need for a SAVE button.

This row of function buttons is the first step for the most commonly used features.

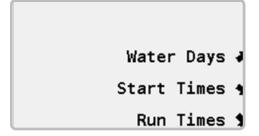


#### SCHEDULE IRRIGATION

Schedules are lists of sprinklers, valves or blocks (see Blocks page 6) that start watering at a pre-determined time. Sprinklers and valves are often called stations. Schedules can also contain delays which are periods of time between the end of one sprinkler's runtime and the start of the next one. Each schedule can have up to eight start times. The field controller can have up to 32 schedules; each with up to 64 stations, blocks or delays in any combination. For each schedule you define the daily water cycle, the automatic start time and runtimes for each station or block.

#### Create a Schedule

1. Press the SCHEDULE IRRIGATION button.



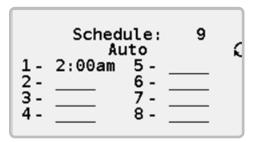
2. Select WATER DAYS and enter the schedule number.



- 3. Use the OPTION **O** button to select the type of daily water cycle.
  - Water all Days: Schedule will run every day.
  - Days of the Week: Schedule will run on selected days of the week.
  - Skip Days: Schedule will run according to an interval such as every other day.
  - Manual Only: Schedule can only be run manually and will not be given a start time.

#### **SCHEDULE IRRIGATION**

4. Press the BACK button then select START TIMES and enter the schedule number.



- 5. Use the OPTION  $\mathfrak{S}$  button to select a start time option.
  - Auto: Schedule starts at the time entered.
  - Start plus Repeats: Schedule starts at the time entered then repeats the indicated number of times.
  - Start to End: Schedule starts at the time entered then repeats as many times as necessary until the end time.

6. Use the BACK button then select RUNTIMES and enter the schedule number.

Sched	lule:	9	2
STA/BLK	#	RUNTIME	
STA	2	0:10	×
STA	4	0:20	٦
STA	6	0:10	D)
STA	8	0:10	
Adjusted	Total	2:40	á

7. Enter stations (STA), blocks (BLK) or delays (DLY) with runtimes.

Use the +/- buttons to choose STA, BLK or DLY. Use DELETE to remove stations. Use INSERT to insert stations. Use COPY to copy stations to the next line and automatically increment the station number.

**Adjusted Total** is the total runtime of all stations in the schedule with any seasonal adjustment applied. (see *Seasonal Adjustment page 10*)

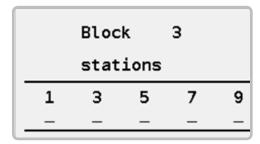
Once a schedule is created the water days, start times and runtimes can be quickly changed by selecting the appropriate menu option and entering the number of the schedule you want to edit. The +/- buttons can be used to quickly scroll through the list of available schedule numbers.

# **BLOCKS**

Blocks are groupings of two to ten stations that will run simultaneously. They are used to shorten irrigation time when your system has enough hydraulic capacity. When a block of sprinklers is created the block is treated like a single station. This means a block placed in a schedule will get a single runtime and all sprinklers in the block will run for that length of time.

#### Create a Block

1. Press the BLOCKS button.



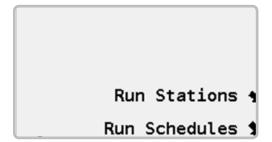
- 2. Use the numeric keypad to enter a number from one to 64 to identify the block.
- 3. Enter up to ten station numbers in any order.
- 4. You can create up to 64 blocks with up to ten stations each.

#### MANUAL IRRIGATION

Manual irrigation is used to manually start schedules or stations. Both automatic schedules (see Schedule Irrigation page 4) and manual only schedules (those with water days set to manual) can be started this way. Manual irrigation is allowed even when the controller is paused (see Pause page 14) or in rain shutdown (see Rain Shutdown page 13).

#### **Run Stations Manually**

1. Press the MANUAL IRRIGATION button.



Select RUN STATIONS.



- 3. Use the OPTION **O** button to select a runtime option.
  - One at a Time: Each station in the list must complete its full runtime before the next station will turn on.
  - Simultaneous: Multiple stations, up to the power capabilities
    of the controller, will turn on at the same time up to the
    power capabilities of the controller.
- 4. Enter station (STA) or block (BLK) numbers with runtimes. Use the +/- buttons to choose STA or BLK. Use COPY to copy settings to the next line and automatically increment the station number.
- Select START.

#### MANUAL IRRIGATION

#### **Stop Stations**

- Press the QUICK VIEW button if the display is not already showing running stations.
- 2. Use the UP and DOWN buttons to move the station pointer through the list of running stations until it points to the station you want to stop.
- 3. Select STOP. The station will turn off and be removed from the list of running stations.

### **Run Schedules Manually**

Press the MANUAL IRRIGATION button then select RUN SCHEDULES.



- Enter the schedule number. If you do not want to run the entire schedule, enter the step within that schedule where you want watering to start.
- 3. Select START.

# **Stop Schedules**

Press the MANUAL IRRIGATION button then select RUN SCHEDULES.



- 2. Enter the schedule number. Use the +/- buttons to quickly scroll through the available schedule numbers.
- 3. Select STOP.

# **SAFETY TOGGLE™ SWITCHES**

Each station in the the controller has a Safety Toggle™ switch. These switches give you the option of turning stations on or off. The switches are on the blue output modules inside the controller enclosure.

Safety Toggle switches are a unique form of mechanical station switch. Any time a switch changes position the change is recorder in the station log (see View Logs page 15) with a date and time stamp. This information can be retrieved by the central control and reviewed from your office.

The switches have three positions.



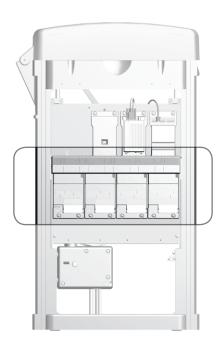
**ON:** The up position is on. The on position position will cause the station to begin watering. It also starts a 30 minute safety timer. If you forget to put the switch back in auto or off, after 30 minutes the controller will turn the station back to auto.



**AUTO:** The middle position is auto. Normally all switches are left in the auto position as this allows them to run automatically from instructions sent by the control panel.



**OFF:** The bottom position is off. The off position prevents the station from turning on even when instructions are received from the control panel.



#### SEASONAL ADJUSTMENT

Seasonal adjustment is used to make quick adjustments to Schedules as weather conditions change and the season progresses.

- **Runtime Adjustment**: Change runtimes for stations in selected schedules by the percentage you enter.
- Start Time Adjustment: Increase or decrease start times for all automatic schedules in 30 minute increments.

#### **Runtime Seasonal Adjustment**

1. Press the SEASONAL ADJUSTMENT button.

Runtime Adjustment 4
Start Time Adjust 1

2. Select RUNTIME ADJUSTMENT.



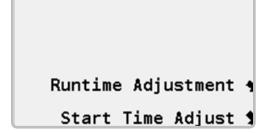
- 3. Enter a percentage adjustment using the keypad.
- 4. For each schedule use the OPTION → button to indicate if the schedule should USE or IGNORE the adjustment. You can scroll through the schedules quickly using the +/- buttons.
- 5. Runtime seasonal adjustments can be from one to 300%.

# **SEASONAL ADJUSTMENT**

Start time seasonal adjustment is used to quickly adjust schedule start times earlier or later in the evening as the season progresses and it begins to get dark earlier or later. Using start time seasonal adjustment you can quickly change the start times for all your schedules by + or - 30 minutes.

#### **Start Time Seasonal Adjustment**

1. Press the SEASONAL ADJUSTMENT button.



2. Select START TIME ADJUSTMENT.

Adjust all schedule start times by:

+30 minutes

-30 minutes

 As the season progresses and days get longer, use the +30 MINUTES button to make all your schedules start 30 minutes later. Later in the season, as days get shorter, use the -30 MINUTES button to make schedules start earlier.

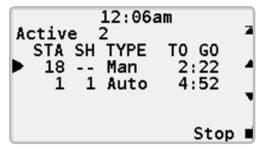
# **QUICK VIEW**

When no stations are running Quick View shows both the current time and next scheduled start time.

```
08:58pm

Next Start: 11:59pm
```

When sprinklers are running they will be displayed with remaining minutes of runtime. If the station is running as part of a schedule, a schedule (SH) number will be shown. If the schedule was started manually the type will be shown as MAN. Schedules started automatically are identified with a type of AUTO.



#### **RAIN SHUTDOWN**

Rain shutdown is used to prevent schedules from starting automatically when it is raining. Because after it rains there may be no need to water for a while, rain shutdown can be set to prevent automatic schedule starts for up to 99 days.

#### **Put Controller in Rain Shutdown**

1. Press the RAIN SHUTDOWN button.

Irrigation Stopped

Rain Shutdown Days Always

Rain Shutdown ■

Using the +/- buttons select the number of days automatic schedules should be interrupted.



NOTE: During rain shutdown you can still run schedules and stations manually. (see Manual Irrigation page 7)

Select RAIN SHUTDOWN.

01:31am

Rain Shutdown

Days Remaining: 5

- 4. Once the controller is in rain shutdown the display will change to show the number of days before automatic starts will resume.
- 5. To resume automatic irrigation before rain shutdown expires, press the RESUME button.

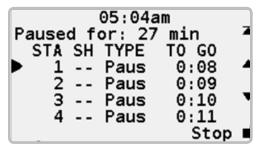
#### **PAUSE**

When irrigation is paused, all sprinklers turn off and automatic schedule starts are prevented. The field controller remembers what was running along with any remaining minutes of runtime. This way, when irrigation resumes, watering will pick up where it left off and all sprinklers will get their full minutes of runtime.

Pause includes a 30 minute safety timer so if you forget to resume irrigation, it will start automatically after 30 minutes.

#### **Pause Irrigation**

1. Press the PAUSE button.



- 2. Sprinklers that are running will turn off and automatic starts will be prevented.
- 3. The display will change to show irrigation is paused and the pause timer will begin to count down.

To resume irrigation press the RESUME button.

#### **VIEW LOGS**

The controller maintains three sets of logs.

- Field Controller Log: Contains information about the controller.
- Alarm Log: Contains a list of alarms that have been triggered.
- Station Log: Contains information about field controller station outputs.

The logs are all very similar so only the controller log will be shown.

#### **View Field Controller Log**

1. Press the VIEW LOGS D button.



2. Select CONTROLLER LOG.



NOTE: The number following alarm log is the number of alarms listed in the log.



3. The log will show one entry at a time starting with the most recent. Use the UP ▲ and DOWN ▼ buttons to move to other log entries. The TOP ▲ button returns you to the most recent log entry.

# **REGIONAL SETTINGS**

Regional Settings are used to set the time format and language.

1. Press the REGIONAL SETTINGS button.

# Regional Settings Language: English C Time Format: am/pm C Show Seconds: OFF C

- 2. Use the OPTION 2 button to select the display language for the field controller.
- 3. Use the OPTION 2 button to select 12-hour or 24-hour time format for the field controller.
- 4. Use the OPTION C button to display timers to the minute or to the second.

Settings contain a number of controller and station settings.

#### EasyRetrieve™

EasyRetrieve is used to make a backup of the schedules in the field controller. Once created, the schedules can easily be restored.

#### Store Schedules using EasyRetrieve™

1. Press the SETTINGS >> button.

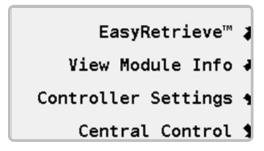
EasyRetrieve™ ↓
View Module Info ↓
Controller Settings ↑
Central Control ↑

2. Select EASYRETRIEVE™.

EasyRetrieve™: Store ↓ Recall ¶ 3. Select STORE.

#### Recall Schedules using EasyRetrieve™

1. Press the SETTINGS > button.



Select EASYRETRIEVE™.



Select RECALL.

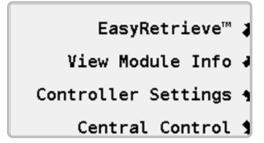
#### **Module Information**

The field controller is made with several components or modules. Each module has its own version indicating when it was manufactured. Occasionally it may be necessary to identify the version number of a module.

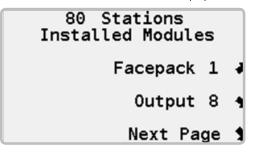
All module information is presented in a similar format therefore these instructions only describe the output module.

#### View Module Information

1. Press the SETTINGS >> button.



2. Select VIEW MODULE INFO. The total number of stations available in the field controller is displayed at the top.



3. Select OUTPUT MODULES.

```
Output Modules
Module 1 of 4
Name: Decoder
250 Station
Firmware: 1.00.001 b
Bootload: 3
Slot:W1 E0 MN0
Board: 0
```

#### **Date and Time**

- 1. Press the SETTINGS >> button.
- Select CONTROLLER SETTINGS.

Set Time Set Station Delay Change Password Display Contrast \$

Select SET TIME.

Wed 18 Jul 2012

Irrigation Day Starts
12:00pm

Stop Watering at:

- 4. Enter the current month, day and year.
- Enter the current time.

- 6. Change the beginning of the irrigation day if necessary. This should be a time half way between when watering ends in the morning and watering starts in the evening. For example, if you water from 8:00 pm (20:00) until 4:00 am (04:00) you should end the irrigation day around noon.
- Optionally enter the STOP WATERING time. This is the time at which any running automatic irrigation will stop. It is used to define a fixed watering window.

#### **Delay between Stations**

Station delay briefly suspends activation of each station within a schedule to avoid low pressure problems and temporary high electrical demand. Each schedule can be given its own station delay.

- 1. Press the SETTINGS button.
- Select CONTROLLER SETTINGS.
- 3. Select SET STATION DELAY.

Schedule: 9
Station Delay
2 Seconds

- 4. Enter a schedule number.
- 5. Enter a station delay.

#### **Password**

The password prevents unauthorized changes to certain field controller settings such as automatic schedules. The first time a field controller is used it will not have a password.

#### Set Password

- 1. Press the SETTINGS >> button.
- Select CONTROLLER SETTINGS.
- Select CHANGE PASSWORD.

# Change Password Existing off New off Confirm off Press DEL to Disable Password

4. Using the numeric keypad enter a new password, press the OK button. Enter the password again to confirm and press OK.

#### **Change Existing Password**

- 1. Press the SETTINGS >> button.
- 2. Select CONTROLLER SETTINGS.
- Select CHANGE PASSWORD.



 Use the numeric keypad to enter the existing password, press the OK button. Enter a new password, press OK, confirm the new password and press OK.

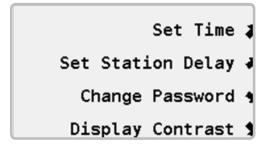
#### Disable Password

- 1. Press the SETTINGS button.
- 2. Select CONTROLLER SETTINGS.
- 3. Select CHANGE PASSWORD.
- 4. Use the numeric keypad to enter the existing password.
- 5. Press the DEL key to disable the password.

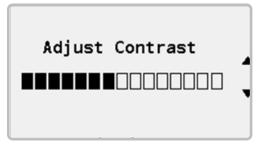
#### **Display Contrast**

Adjusting the display contrast can make the display easier to read under certain lighting conditions.

- 1. Press the SETTINGS >> button.
- 2. Select CONTROLLER SETTINGS.



3. Select DISPLAY CONTRAST.



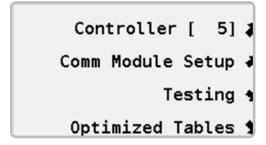
 Use the UP ▲ and DOWN ▼ arrows to increase or decrease the display contrast.

Pilot field controllers can be used as stand-alone field controllers as well as part of a central control system. When used as part of a central control system all field controllers on the site are linked together and managed by a central computer. The central control settings are used to configure the field controller to work as part of this system.

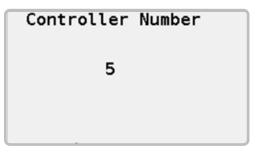
#### Field Controller Number

To be identified in the control system each field controller must have a unique ID.

- 1. Press the SETTINGS >> button.
- 2. Select CENTRAL CONTROL. If the field controller already has a number it will be shown inside square brackets [].



Select CONTROLLER to assign or change the field controller number.



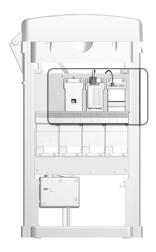
4. Use the numeric keypad to assign a number between 1 and 999.



NOTE: Field controller numbers must be unique.

#### **Communication Modules**

When the Pilot field controller is used as part of a central control system all field controllers on the site are linked together and managed by a central computer. To communicate with the central computer one or more communication modules are installed. Communication modules are available for hardwired, UHF radio and license-free spread-spectrum radio systems and are green. Only available modules are displayed in the menu.



- 1. Press the SETTINGS >> button.
- 2. Select CENTRAL CONTROL.

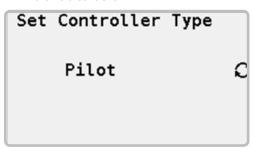
```
Controller [ 5] 
Comm Module Setup 
Testing 
Optimized Tables
```

3. Select COMM MODULE SETUP.

PILOT-HWR N1	4
PILOT-RAD-UHF N2	J
PILOT-RAD-VSX N3	1
PILOT-RAD-900 N4	1

#### Wired Communications

 Select PILOT-HWR N1. N1 refers to the first, narrow plug-in slot in the field controller.



2. Use the OPTION Obutton to configure the system for a Pilot-FC field controller or to emulate a VSX field controller.

#### **PILOT UHF Radio Communications**

 Select PILOT-RAD-UHF N2. N2 refers to the second, narrow plug-in slot in the field controller.

# Radio Settings Channel: 4 Change Channel ↓ Key Radio ↔ Pass-Thru ¶

- 2. The channel will be displayed.
- 3. If necessary select CHANNEL to change the radio channel.
- 4. Select KEY RADIO to activate the radio's push-to-talk when testing the radio.
- 5. Select PASS-THROUGH to put the radio in pass-through mode for testing and troubleshooting.

#### License-free 900 MHz Spread-spectrum Radio

- 1. Select PILOT-RAD-900.
- 2. Select FREEWAVE RADIO SETUP.

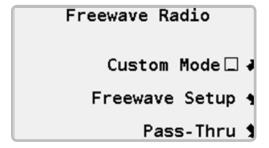
# Freewave Radio Custom Mode□ ↓ Freewave Setup ¶ Pass-Thru ¶

- 3. CUSTOM MODE is used when configuring the radios manually.
- FREEWAVE SETUP is used if you must make changes to the NETWORK ID, TX SUBNET ID, RX SUBNET ID and RADIO MODE.
- 5. Select PASS-THROUGH to put the radio in pass-through mode for testing and troubleshooting.

#### License-free 2.4 GHz Radio

The license-free 2.4 GHz radio operates at a frequency which can be used in many international locations and does not require a license.

- Select PII OT-RAD-24.
- 2. Select FREEWAVE RADIO SETUP.



- 3. CUSTOM MODE is used when configuring the radios manually.
- FREEWAVE SETUP is used if you must make changes to the NETWORK ID, TX SUBNET ID, RX SUBNET ID and RADIO MODE.
- Select PASS-THROUGH to put the radio in pass-through mode for testing and troubleshooting.

#### To Emulate VSX UHF Radio Communications

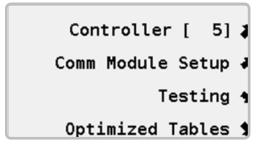
- VSX is an earlier model Hunter field controller. The Pilot-FC field controller is compatible with the VSX and can be used as a replacement.
- 2. Select PILOT-RAD-VSX N3

- There are no configurable settings when emulating a VSX radio system with the Pilot field controller.
- 4. Select KEY RADIO to activate the radio's push-to-talk when testing the radio.

#### **System Testing**

The Pilot field controller has several communication test features. Available tests will depend on the type of communications module(s) installed.

- 1. Press the SETTINGS >> button.
- 2. Select CENTRAL CONTROL.



Select TESTING.

Field Communication 

Monitor Comms 

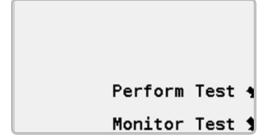
Maintenance Radio 

\*\*The communication \*\*The co

#### **Communication Test**

The communication test will attempt to communicate with the interface or selected field controller. Successful attempts will accumulate and the signal quality will be displayed. For best results allow the test to run for several minutes.

1. Select FIELD COMMUNICATION.



Select PERFORM TEST.

Target:FC/DH C Controller: 5 Attempts: 0 Quality: 0% RSSI: 0%

- Use the OPTION button to select FI (used to test communication between the field controller and the field interface) or FC/DH (used to test communication to another field controller in the network).
- If the FC/DH test was selected in step two above, use the numeric keypad to enter the number of the target field controller to be used in the test.
- Select START. The controller will attempt to signal the target while monitoring for successful replies. This information is combined into the QUALITY statistic. 100% means the controller received a reply for every attempted call. 0% means none of the signal attempts resulted in a successful reply.

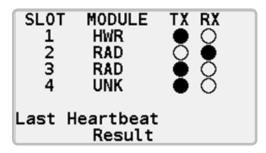
Target: FC/DH C Controller: 5 Attempts: 6 Quality: 0% RSSI: 92%

 If you are using a UHF radio system an additional measurement labeled RSSI is displayed. RSSI is a measure of the signal strength for radio message received by the controller. 100% RSSI is the strongest possible signal. 0% RSSI means the radio is not receiving any signals.

#### **Monitor Communication**

As the field controller communicates the TX and RX lights will flash. Monitor communications will listen for a heartbeat signal from the Pilot-FI field interface. The heartbeat is sent out about every 20 minutes therefore the LAST HEARTBEAT time should be within that time period. If it is not the field interface may be off or you may be experiencing a communication problem.

Select MONITOR COMMS.



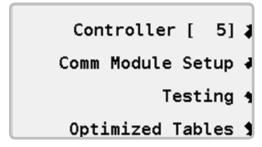
 Installed communication modules will be listed. HWR is hardwire module, RAD is radio module and UNK is unknown. Active communication is displayed by the transmit (TX) and receive (RX) lights.

#### **Optimized Tables**

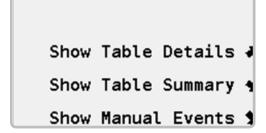
When watering using flow-optimized schedules from the central computer, the central control sends a list of flow-optimized events to the field controller. The event list is placed in a table for review when troubleshooting the system. The tables are called optimized tables.

1. Press the SETTINGS >> button.

2. Select CENTRAL CONTROL.



3. Select OPTIMIZED TABLES.



 Select SHOW TABLE DETAILS to view a detailed listing of flow optimized events.



Select SHOW TABLE SUMMARY to view a summary of the flow optimized events.

Last Download No Downloads						
DAY 1 2	COUNT 0 0		3 DAY	C	0UN 0	Т
Curr	ent D	ау	is	3	of	3

 Select SHOW MANUAL EVENTS to view a detailed listing of maintenance radio activity.



#### **SPECIFICATIONS**

#### **Dimensions**

39.5" H x 23.5" W x 17.4" D (100 cm H x 60 cm W x 44 cm D)

Weight: 70 lbs. (32 kg)

#### **Electrical**

#### **Power Supply Input**

Supply wires must be 14 AWG (1.85mm²) or larger

120/230 VAC at 60/50 Hz

1.2 amps maximum at 120 VAC

0.73 amps maximum at 230 VAC

#### **Transformer Output**

Station output: 1 amps at 24 VAC

Station capacity: Three standard 24 VAC Hunter® golf valve-in-head rotor solenoids per output, 18 maximum simultaneous solenoids per 80-station field controller.

#### **Features and General Specifications**

- Five languages
- Up to 80 stations in 10-station increments
- Up to three Hunter® golf valve-in-head rotor solenoids per station output
- Up to 18 simultaneous Hunter® golf valve-in-head rotor solenoids per 80-station field controller
- 32 automatic schedules with up to 64 stations each
- Eight start times per schedule
- Safety-Toggle™ mechanical station switches with 30-minute safety timer and date/time logging
- Station runtimes one minute to 6 hours in one minute intervals
- One to 31 day skip-day scheduling
- 64 blocks with ten stations per block
- One-touch rain shutdown up to 99 days or indefinitely
- One-touch pause with 30 minute safety timer
- One to 300%: Runtime seasonal adjustment
- ±30 minutes: Start time seasonal adjustment

# **FCC NOTICE**

This controller generates radio frequency energy and may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Move the controller away from the receiver.
- Plug the controller into a different outlet so that controller and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C., Stock No. 004-000-00345-4 (price – \$2.00 postpaid).

