MOISTURE SENSOR
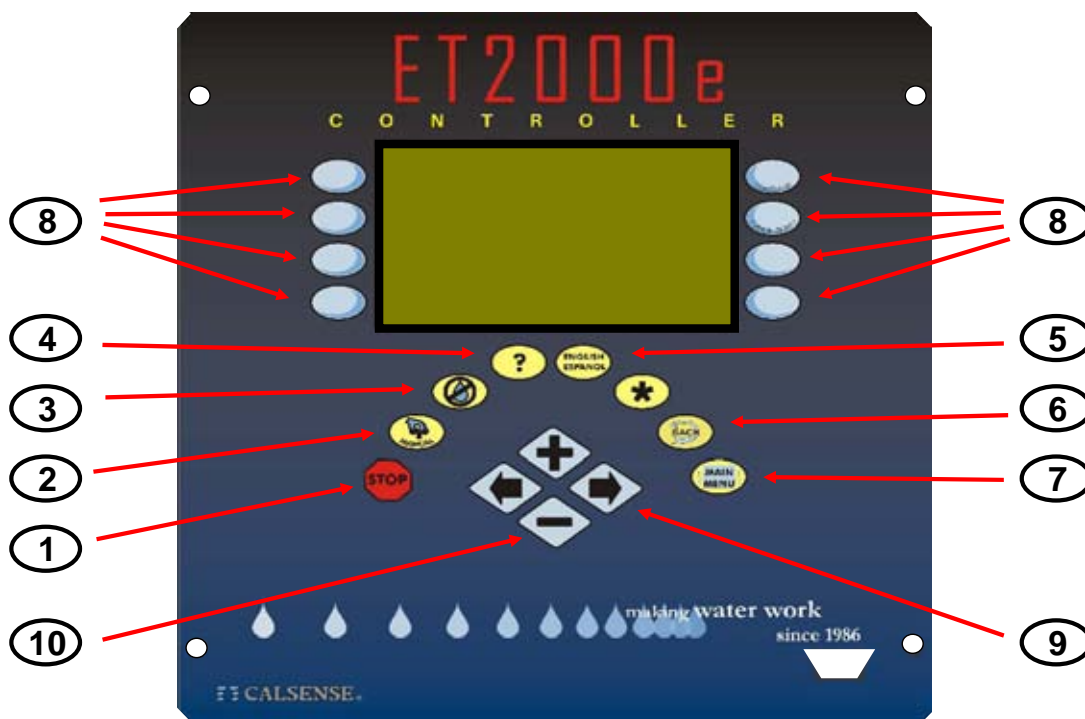
💧 ET2000e SERIES CONTROLLER MOISTURE SENSOR SETUP

1 STOP – The STOP key will stop any currently running Scheduled watering Cycle, Manual Cycle, Test Cycle, Manual Special Sequence.

2 MANUAL – The MANUAL key will perform Manual Water, Test, Master Valve Override and Manual Program 1 & 2, Walk-thru, and Use Hold-over.

3 NO WATER – The NO WATER key will turn the controller Off and set No Water Days.

4 ? – The ? key is used to access the controller Help screens.

5 ENGLISH / ESPANOL – The ENGLISH / ESPANOL key allows you to toggle the displayed text between English and Spanish.

6 BACK – The BACK key will go back to the previous screen.

7 MAIN MENU – The MAIN MENU key is used to access the different program features of the controller.

8 MENU KEYS – MENU keys select the different features of commands in the different screens and are adjacent to the left and right side of the controller's display screen. The text in the screen will point towards the MENU key that needs to be pressed.

9 LEFT / RIGHT ARROW KEYS – The LEFT / RIGHT ARROW keys move the highlighted cursor around the different screens when setting up or editing the controller's features and options.

10 PLUS / MINUS KEYS – The PLUS / MINUS keys increase or decrease values or answer Yes or No questions in the different screens.

💧 *MOISTURE SENSOR*

1. **MAIN MENU**   Press the **MAIN MENU** key.

2. [button]   Press the **WEATHER** menu key (Figure 1).

```
CALSENSE WATER MANAGEMENT SYSTEM

Programs & Stations          Lights          STATION UP

Weather                      Reports         STATION DOWN

Flow                         Radio Remote

Setup                        Status
```
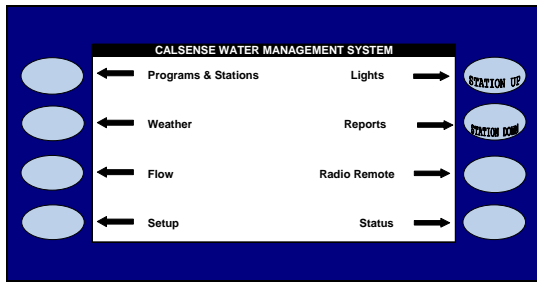
Figure 1

The WEATHER SETUP screen is displayed (Figure 2).

```
WEATHER  SETUP

ET Gage              ET          STATION UP

Rain Bucket          Budget      STATION DOWN

Wind Gage            Moisture

Rain Switch
```
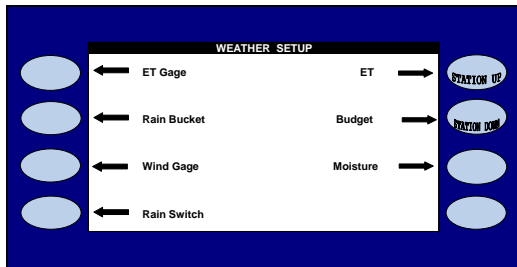
Figure 2

3. [button]   Press the **MOISTURE** Menu key. This will bring up the MOISTURE SENSING SETUP screen (Figure 3).

```
MOISTURE  SENSING  SETUP

Moisture  Sensing  in  Use? NO    STATION UP

                                  STATION DOWN
```
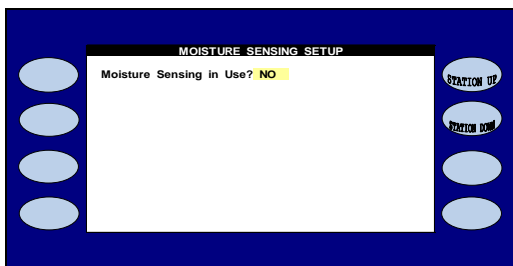
Figure 3

The default setting is NO. If you are currently using Moisture sensors on this controller then change the setting to YES.

4. [arrow keys]   Press the **PLUS** or **MINUS** keys to change the settings.

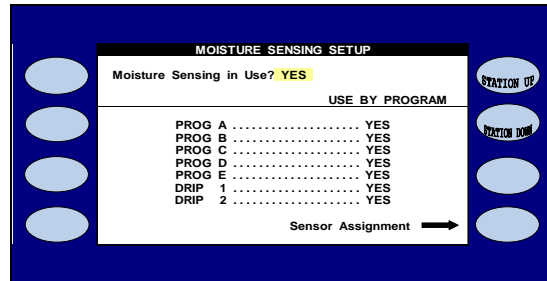The MOISTURE SENSOR SETUP screen will change to reveal the Use by Program settings (Figure 4).

```
MOISTURE  SENSING  SETUP

Moisture  Sensing  in  Use? YES           STATION UP

                  USE  BY  PROGRAM

PROG  A ..................... YES          STATION DOWN
PROG  B ..................... YES
PROG  C ..................... YES
PROG  D ..................... YES
PROG  E ..................... YES
DRIP  1 ..................... YES
DRIP  2 ..................... YES

                  Sensor Assignment  ➡
```

Figure 4

5. [arrow keys]   Press the Blue **ARROW** keys to move the cursor to the next entry.

```
MOISTURE  SENSING  SETUP

Moisture  Sensing  in  Use? YES           STATION UP

                  USE  BY  PROGRAM

PROG  A ..................... YES          STATION DOWN
PROG  B ..................... YES
PROG  C ..................... YES
PROG  D ..................... YES
PROG  E ..................... YES
DRIP  1 ..................... YES
DRIP  2 ..................... YES

                  Sensor Assignment  ➡
```
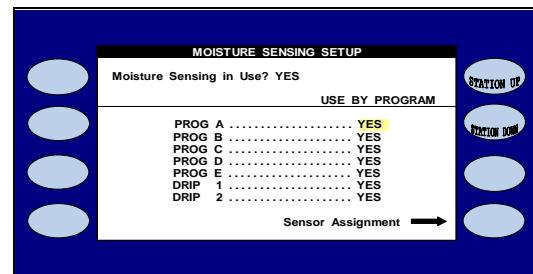
Figure 5

To change the Use by Program,

6. [arrow keys]   Press the **PLUS** or **MINUS** keys. (Figure 5).

7. [arrow keys]   Press the Blue **ARROW** keys to move the cursor to the next entry.

This will allow you to set up the programs that you want to use Moisture Sensors on.

8. Press the **SENSOR ASSIGNMENT** Menu key. This will take you to the MOISTURE SENSOR ASSIGNMENT SCREEN (Figure 6).
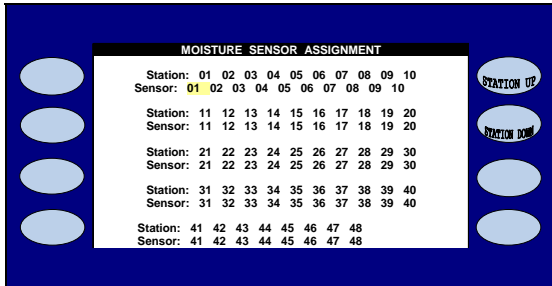
MOISTURE SENSOR ASSIGNMENT

Station: 01 02 03 04 05 06 07 08 09 10
Sensor: 01 02 03 04 05 06 07 08 09 10

Station: 11 12 13 14 15 16 17 18 19 20
Sensor: 11 12 13 14 15 16 17 18 19 20

Station: 21 22 23 24 25 26 27 28 29 30
Sensor: 21 22 23 24 25 26 27 28 29 30

Station: 31 32 33 34 35 36 37 38 39 40
Sensor: 31 32 33 34 35 36 37 38 39 40

Station: 41 42 43 44 45 46 47 48
Sensor: 41 42 43 44 45 46 47 48

STATION UP

STATION DOWN

Figure 6

Next you will have to enter the settings for each Moisture sensor assigned to a station.

A representative station for each different climatic and plant material zone on the controller is given a sensor and is known as a Master station. Slave stations are stations without sensors and are assigned to a master station which share similar water requirements. The choice of groups of stations controlled by the same sensor is done at the controller within the MOISTURE SENSOR ASSIGNMENT screen.

9. Press the **PLUS** or **MINUS** keys to change the entry.

10. Press the Blue **ARROW** keys to move the cursor to the next entry.

Once all of the Moisture Sensors have been set up properly,

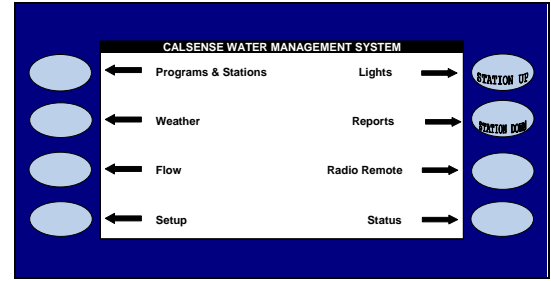11. Press the **MAIN MENU** key to return to the MAIN MENU screen (Figure 7).

CALSENSE WATER MANAGEMENT SYSTEM

← Programs & Stations   Lights →   STATION UP

← Weather   Reports →   STATION DOWN

← Flow   Radio Remote →

← Setup   Status →

Figure 7

12. Press the **PROGRAMS & STATIONS** Menu key (Figure 7).

This will take you to the PROGRAMS & STATIONS screen. (Figure 8).

PROGRAMS & STATIONS

← Start Times & Water Days   STATION UP

← Stations   Station - by - Program →   STATION DOWN

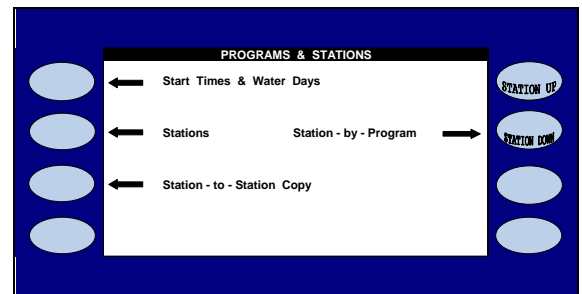← Station - to - Station Copy

Figure 8

13. Press the **STATIONS** Menu key. (Figure 8).

This will take you to the STATION PROGRAMMING screen (Figure 9).

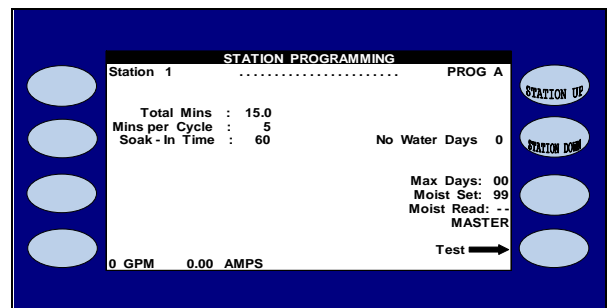**STATION PROGRAMMING**
Station 1   . . . .   PROG A

Total Mins   :   15.0
Mins per Cycle :   5
Soak - In Time :   60   No Water Days   0

                                        Max Days: 00
                                        Moist Set: 99
                                        Moist Read: - -
                                        MASTER

                                        Test →

0 GPM   0.00 AMPS

STATION UP

STATION DOWN

Figure 9

14. Press the Blue **ARROW** keys to move the cursor to the MAX DAYS entry.

ZE CALSENSE ®

MAX DAYS: This entry is used to automatically bypass the moisture sensors of individual stations, separate program stations or all stations, for one to thirty-one days. Stations will receive their maximum programmed water time. The controller will display the number of days remaining in override and can be cleared at any time. After the programmed Maximum Water has elapsed, the system will automatically return to moisture sensing operation (Figure 10).
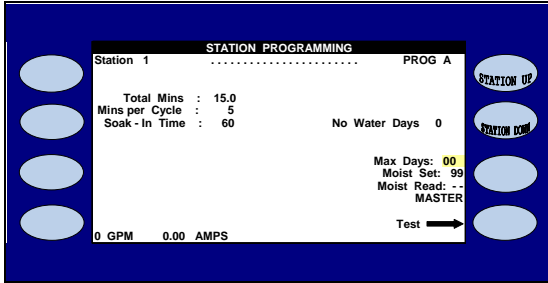

Figure 10

15. Press the **PLUS** or **MINUS** keys to change the entry.

16. Press the Blue **ARROW** keys to move the cursor to the MOIST SET entry.

MOIST SET: The Calsense Moisture Sensor has it's own numerical system of moisture readings. Typically it reads between the range of 45 (dry) to 85 (wet). By keeping moisture set points at 99, the sensors are never allowed to read above the set point value, and the controller waters the full programmed time. This occurs for the Master station as well as all slave stations assigned to the Master Station. After a few weeks, the slave areas should be checked and readjusted if necessary. If the slave area is to dry, adjust it's maximum time to 25% more. If the area is to wet, decrease it by the same percentage. In both cases, the area should be rechecked after another few weeks, with adjustments made until the proper irrigation level is achieved (Figure 11).
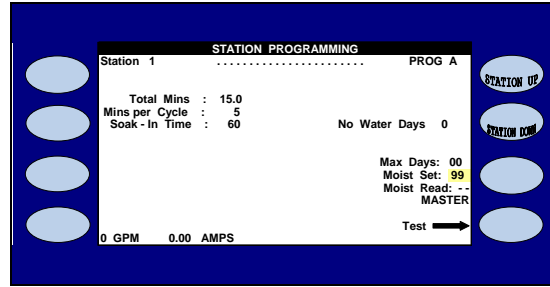

Figure 11

MOIST READ: This entry is non-changeable. The Calsense Moisture sensor is not an On / Off switch. It will never irrigate more than what is programmed on the controller. As a moisture sensor reading goes above the determined moisture set point, the controller irrigates less of the programmed time until it may not water at all. As the controller irrigates less, the moisture level reading drops below the moisture set point. Once this occurs, the controller automatically begins to irrigate more of the programmed time to where it may water the full programmed amount (Figure 12).
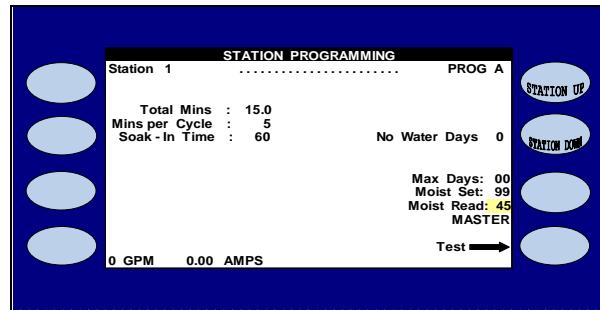

Figure 12

17. Press the **TEST** Menu key to test the station that you are currently on.

18. If you want to test a different station press the **STATION UP** or **STATION DOWN** keys to the right of the display screen (Figure 13).

This will only test the station selected, **but will not** get a reading from the moisture sensor.
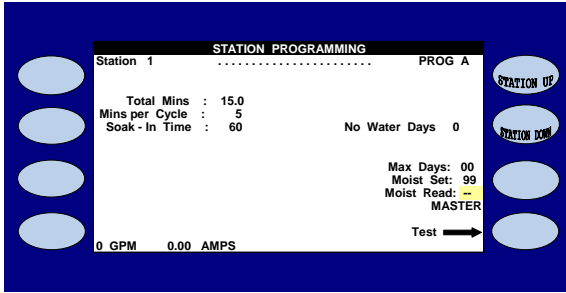
making **water work**

since 1986

STATION PROGRAMMING

Station 1 .... PROG A

Total Mins : 15.0
Mins per Cycle : 5
Soak - In Time : 60   No Water Days 0

Max Days: 00
Moist Set: 99
Moist Read: --
MASTER

Test ➡

0 GPM   0.00 AMPS

Figure 13

If you want to retrieve a current reading from the moisture sensor,

19.   Press the **MANUAL** Menu key. This will take you to the MANUAL IRRIGATION screen (Figure 14).
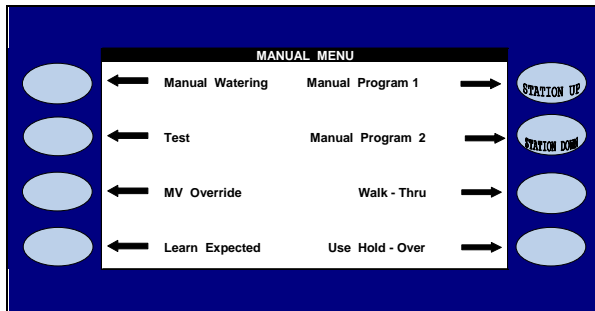
MANUAL MENU

⬅ Manual Watering   Manual Program 1 ➡

⬅ Test   Manual Program 2 ➡

⬅ MV Override   Walk - Thru ➡

⬅ Learn Expected   Use Hold - Over ➡

Figure 14

20.   Press the **TEST** Menu key to access the VALVE TESTING screen (Figure 15).

VALVE TESTING

⬅ Learn the Expected at Station 1

⬅ Test Station 1 for 2.0 minutes

⬅ Test Station 1 for Moisture Sensor
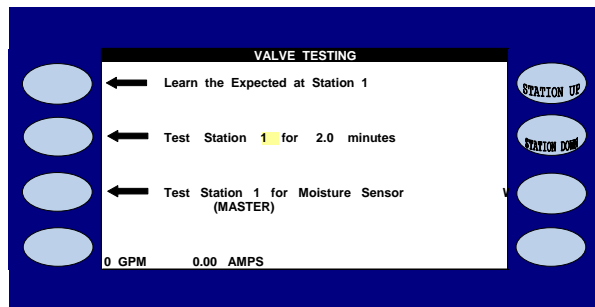(MASTER)

0 GPM   0.00 AMPS

Figure 15

21.   Press the blue **ARROW** keys to move the cursor to the **TEST STATION # FOR MOISTURE SENSOR** Entry (Figure 16).

VALVE TESTING

⬅ Learn the Expected at Station 1

⬅ Test Station 1 for 2.0 minutes

⬅ Test Station 1 for Moisture Sensor
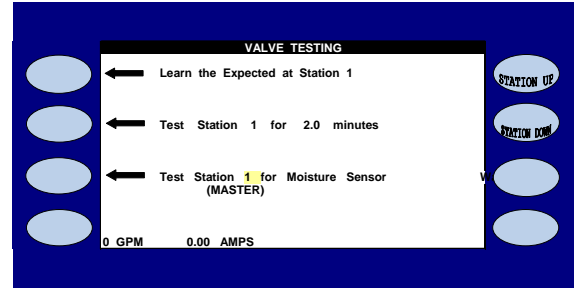(MASTER)

0 GPM   0.00 AMPS

Figure 16

22.   Press the **PLUS** or **MINUS** key to change the station entry.

Note: Only Master stations can be tested for Moisture sensors, slave stations will not be able to test.

23.   Press the **TEST STATION # FOR MOISTURE SENSOR** Menu key to activate test. The screen will show "READING SENSOR ON # please wait (Less than 15 seconds)" for which ever station you selected. After a brief test the STATION PROGRAMMING screen will appear with the new Moisture sensor reading displayed (Figure 17).
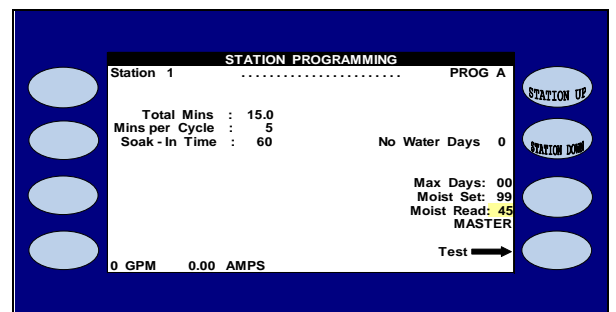
STATION PROGRAMMING

Station 1 .... PROG A

Total Mins : 15.0
Mins per Cycle : 5
Soak - In Time : 60   No Water Days 0

Max Days: 00
Moist Set: 99
Moist Read: 45
MASTER

Test ➡

0 GPM   0.00 AMPS

Figure 17

24.   Press the **MAIN MENU** key to return to the MAIN MENU screen (Figure 1).

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