ET GAGE
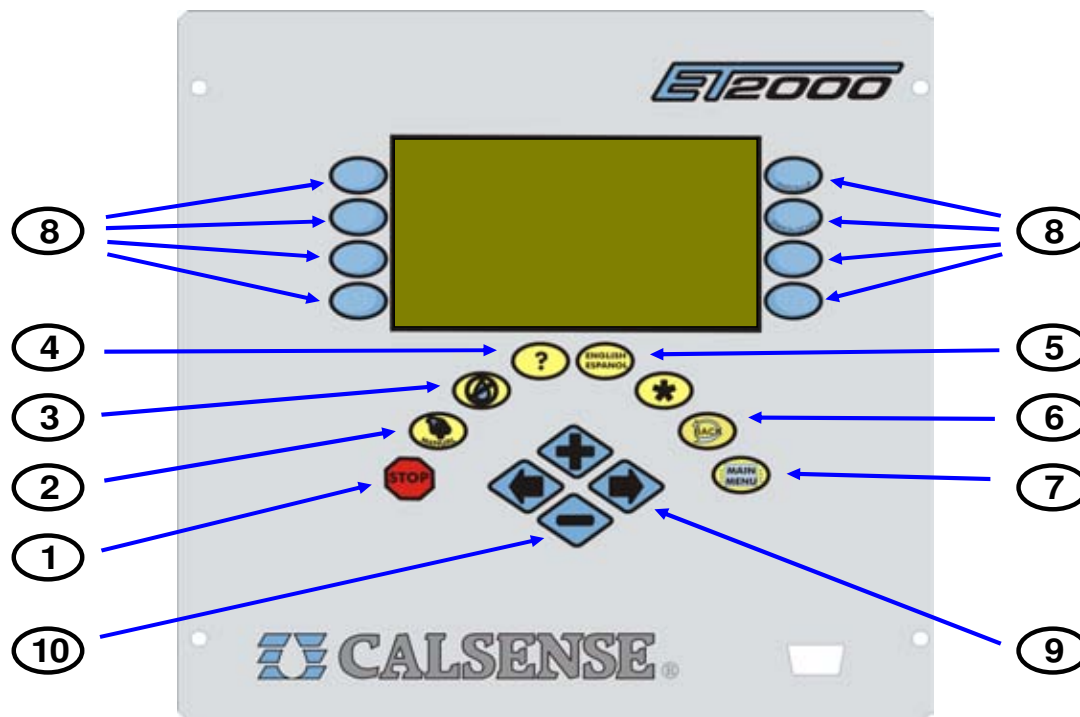
💧 *ET2000 (500 SERIES) ET GAGE SETUP*

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, 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.

ET GAGE SETUP

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

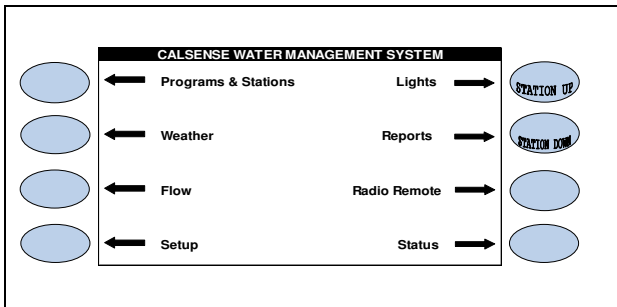2. Press the **FLOW** Menu key (Figure 1).

CALSENSE WATER MANAGEMENT SYSTEM

Programs & Stations   Lights   STATION UP

Weather   Reports   STATION DOWN

Flow   Radio Remote

Setup   Status

Figure 1

The WEATHER SETUP screen (Figure 2).

WEATHER SETUP

ET Gage   ET   STATION UP

Rain Bucket   Budget   STATION DOWN
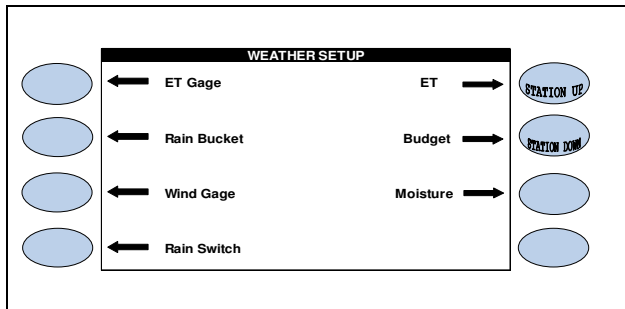
Wind Gage   Moisture

Rain Switch

Figure 2

3. Press the **ET GAGE** Menu key.

The ET GAGE SETUP screen (Figure 3).

ET GAGE

Irrigation Day is from **8:00PM to 8:00PM**   STATION UP
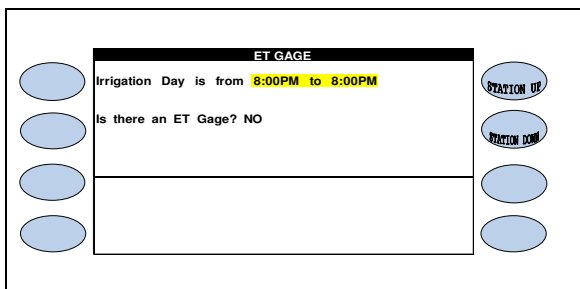
Is there an ET Gage? NO   STATION DOWN

Figure 3

Irrigation Day is from 8:00PM to 8:00PM: This setting is for the time period that you want your ET information to be collected for each day. Keep in mind that you want this time to be before your first irrigation Start Time for that day so that you are using the most current ET information.

4. Press the **PLUS** or **MINUS** key to change the setting.

5. Press the blue **ARROW** keys to move the cursor to the **IS THERE AN ET GAGE?** (Figure 4).
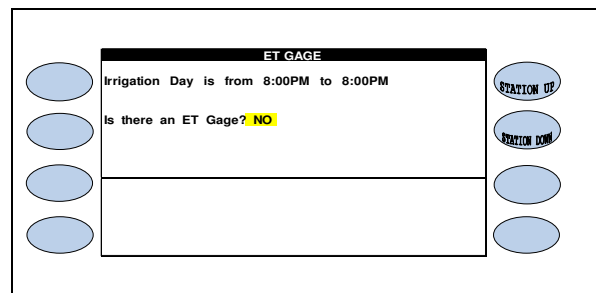
ET GAGE

Irrigation Day is from 8:00PM to 8:00PM   STATION UP

Is there an ET Gage? **NO**   STATION DOWN

Figure 4

6. Press the **PLUS** or **MINUS** keys to change the setting.

If YES is selected the screen will change to read: (Figure 5).

ET GAGE
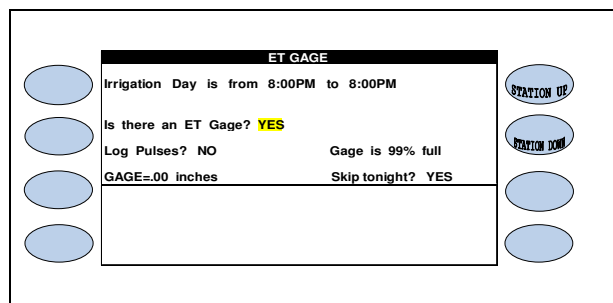
Irrigation Day is from 8:00PM to 8:00PM   STATION UP

Is there an ET Gage? **YES**   STATION DOWN

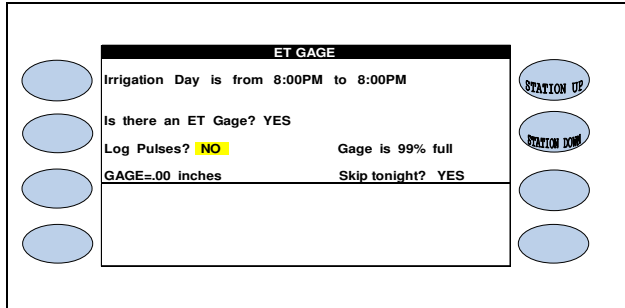Log Pulses? NO   Gage is 99% full

GAGE=.00 inches   Skip tonight? YES

Figure 5

7. Press the blue **ARROW** keys to move the cursor to the **LOG PULSES?** (Figure 6).

Figure 6

Log Each Pulse?: The default is set to NO. Changing to the YES setting gives you the option of keeping a record of each ET gage pulse sent to the controller. This information is located in the diagnostic log. This is helpful when first setting up the ET Gage to make sure that it is working properly, but can be set to NO after you are sure the ET gage is working properly.
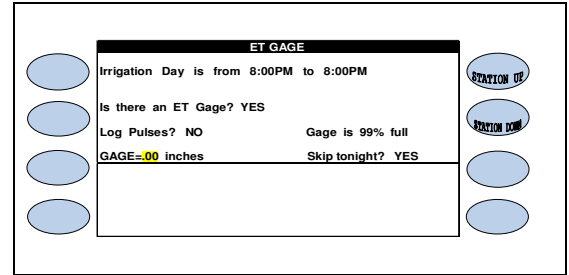
8.　Press the **PLUS** or **MINUS** keys to change the setting.

9.　Press the blue **ARROW** keys to move the cursor to the **GAGE IS 99% FULL** (Figure 7).
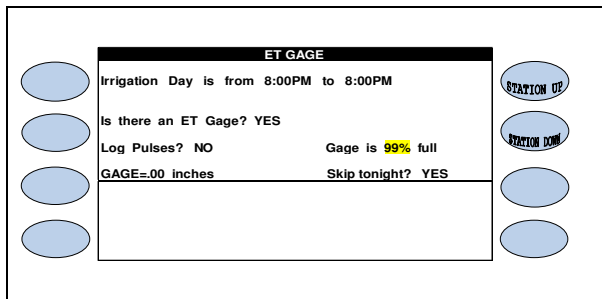
Figure 7

Gage is 99% full: You can use this to reset the amount of water in the Gage after the gage has been refilled during periodic maintenance.

10.　Press the **PLUS** or **MINUS** keys to change the setting.

11.　Press the blue **ARROW** key to move the cursor to the **GAGE =.00 INCHES** (Figure 8).
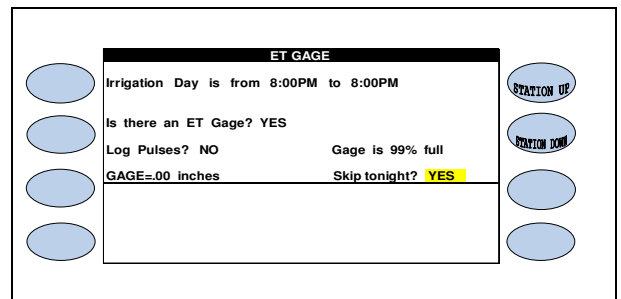

Figure 8

The "GAGE=.00 inches": The default setting is .00 this option allows you to edit the amount of inches. Some of the reasons for editing this number:

1. Servicing the ET gage and removing erroneous logged pulses.
2. Gage temporarily not working and a need to log pulses for that day.
3. Editing number up or down due to specific circumstances.

12.　Press the **PLUS** or **MINUS** keys to change the setting.

13.　Press the blue **ARROW** keys to move the cursor to the **SKIP TONIGHT?** (Figure 9).

Figure 9

SKIP TONIGHT?: The default setting on this option is NO. By selecting YES you are causing the GAGE=.00 inches number to be left out of the ET number for this twenty four hour period.

Note: The Skip Tonight option is used for troubleshooting the ET gage, pulses created during troubleshooting will not be entered into the ET Table if YES is selected.

14. Press the **BACK** key.
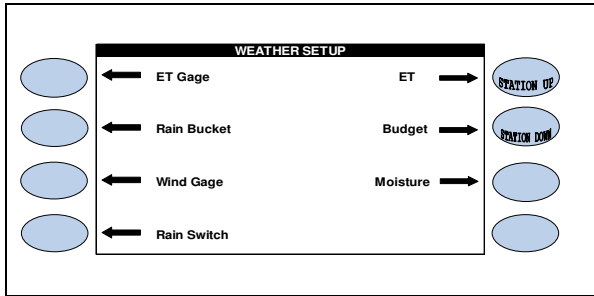
The WEATHER SETUP screen (Figure 10).

WEATHER SETUP

- ET Gage → ET
- Rain Bucket → Budget
- Wind Gage → Moisture
- Rain Switch

STATION UP
STATION DOWN

Figure 10

15. Press the **ET** Menu key.

The DAILY ET SETUP screen (Figure 11).

DAILY ET SETUP (8:00PM TO 8:00PM)
(................................)

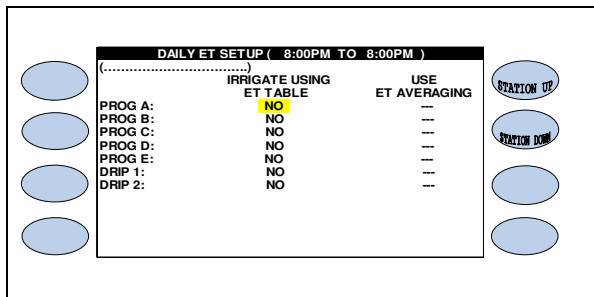|	IRRIGATE USING ET TABLE	USE ET AVERAGING
PROG A:	NO	---
PROG B:	NO	---
PROG C:	NO	---
PROG D:	NO	---
PROG E:	NO	---
DRIP 1:	NO	---
DRIP 2:	NO	---

STATION UP
STATION DOWN

Figure 11

Note: The text line directly under the heading bar will have each program tag if you are currently using them. As you scroll down the program list the tag names will change to what ever you have them selected as. If you do not have any selected the default (………………………..) will appear.

IRRIGATE USING ET TABLE: The default setting is NO. A YES next to a program indicates that the program will use a daily ET to irrigate. A NO next to a program indicates the program is using minutes. Once YES is selected for a program, any station assigned to that program will now use daily ET to irrigate.

16. Press the **PLUS** or **MINUS** keys to change the setting.

If the setting is changed to YES for a program, the USE ET AVERAGING setting will automatically change to YES for that particular program.

17. Press the **PLUS** or **MINUS** keys to change the setting.

USE ET AVERAGING : the default setting is NO., A YES next to a program indicates ET averaging is enabled for that program, which is only available if the program is in daily-ET mode. With ET averaging ON the controller will not use each individual ET value in the ET table. Instead it will use the average of the last 7 days of ET, in this way it will smooth out the long station run-times caused by OFF water days.
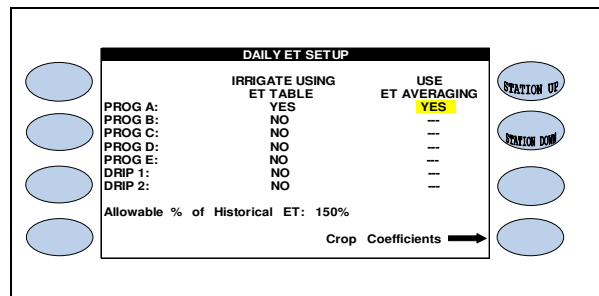

DAILY ET SETUP

	IRRIGATE USING ET TABLE	USE ET AVERAGING
PROG A:	YES	YES
PROG B:	NO	---
PROG C:	NO	---
PROG D:	NO	---
PROG E:	NO	---
DRIP 1:	NO	---
DRIP 2:	NO	---

Allowable % of Historical ET: 150%

Crop Coefficients →

STATION UP
STATION DOWN

Figure 6

ALLOWABLE % OF HISTORICAL ET: This setting controls the maximum allowable amount of ET that can be used to calculate station run times. The default is 150%, which means that if real-time ET measured by the gage, exceeds 150% of historical ET, the controller will place an ET value in the ET table equal to 150% of historical ET instead of the actual real-time ET. This setting allows the user to control the maximum amount of total irrigation time for sites that have a limited water window. The water window is the time from when you can start irrigating to when you have to end irrigation.
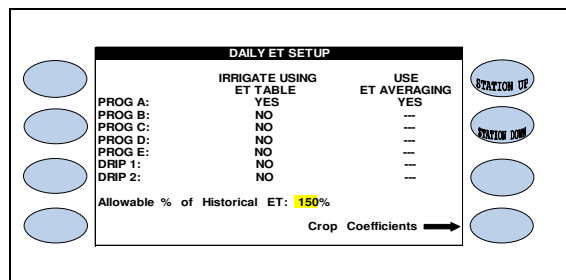

DAILY ET SETUP

	IRRIGATE USING ET TABLE	USE ET AVERAGING
PROG A:	YES	YES
PROG B:	NO	---
PROG C:	NO	---
PROG D:	NO	---
PROG E:	NO	---
DRIP 1:	NO	---
DRIP 2:	NO	---

Allowable % of Historical ET: 150%

Crop Coefficients →

STATION UP
STATION DOWN

Figure 7

18. Press the **CROP COEFFICIENTS** Menu key, this will take you to the Crop Coefficients screen (Figure 8).
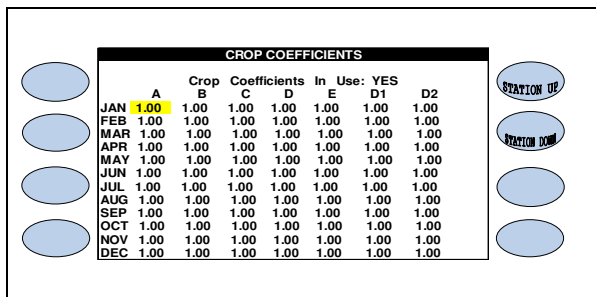
<u>**CROP COEFFICIENTS**</u>: This setting is used to adjust ET for a specific type of crop at different periods throughout the year. If you do not want ET to be modified, leave the selection set at NO.

19. Press the **PLUS** or **MINUS** keys to change the setting.

CROP COEFFICIENTS

Crop Coefficients In Use: NO

STATION UP

STATION DOWN
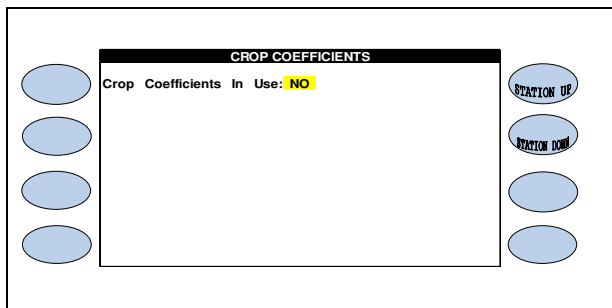
Figure 8

<u>**Crop Coefficients In Use:**</u> The default setting is set to NO. By changing it to YES the Screen will open up the Month and Program Columns (Figure 9).

CROP COEFFICIENTS

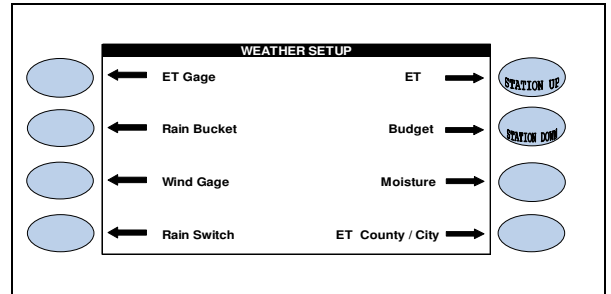|	Crop	Coefficients			In Use: YES	
	A	B	C	D	E	D1	D2
JAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FEB	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MAR	1.00	1.00	1.00	1.00	1.00	1.00	1.00
APR	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MAY	1.00	1.00	1.00	1.00	1.00	1.00	1.00
JUN	1.00	1.00	1.00	1.00	1.00	1.00	1.00
JUL	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AUG	1.00	1.00	1.00	1.00	1.00	1.00	1.00
SEP	1.00	1.00	1.00	1.00	1.00	1.00	1.00
OCT	1.00	1.00	1.00	1.00	1.00	1.00	1.00
NOV	1.00	1.00	1.00	1.00	1.00	1.00	1.00
DEC	1.00	1.00	1.00	1.00	1.00	1.00	1.00

STATION UP

STATION DOWN

Figure 9

This will allow you the option of entering crop coefficient values for each month of the year, on each program in the controller. You must be familiar with crop coefficients to use this feature.
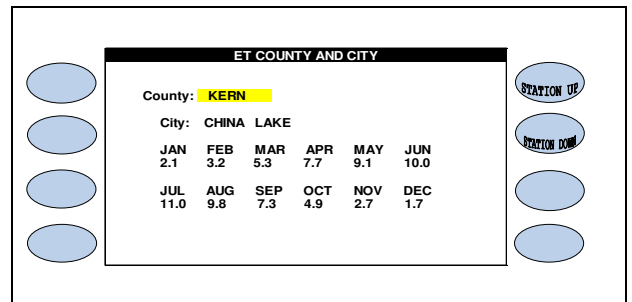
20. Press the **PLUS** or **MINUS** keys to change the setting.

21. Press the **BACK** key twice.

The WEATHER SETUP screen (Figure 10).

WEATHER SETUP

← ET Gage   ET →   STATION UP

← Rain Bucket   Budget →   STATION DOWN

← Wind Gage   Moisture →

← Rain Switch   ET County / City →

Figure 10

22. Press the **ET COUNTY / CITY** Menu key to take you to the ET COUNTY / CITY screen (Figure 11).

ET COUNTY AND CITY

County: KERN

City: CHINA LAKE

JAN	FEB	MAR	APR	MAY	JUN
2.1	3.2	5.3	7.7	9.1	10.0

JUL	AUG	SEP	OCT	NOV	DEC
11.0	9.8	7.3	4.9	2.7	1.7

STATION UP

STATION DOWN

Figure 11

<u>**ET COUNTY / CITY:**</u> As explained earlier in this guide, historical ET is used as a back-up to real-time daily-ET, or it can be used as the source data to drive the program. In either case, you would want to use historical ET for the area you are located in. The ET2000 controller stores historical ET information for counties in California, and numerous cities within each of those counties. Select the area that most represents your location. You can also choose to enter your own ET numbers. If you have selected to enter your own numbers, you will be allowed to edit the numbers under each month.

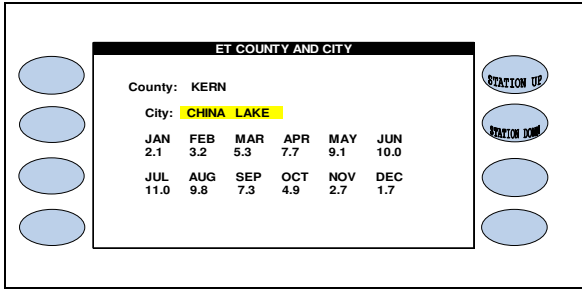23. Press the **PLUS** or **MINUS** keys to change the setting.

Figure 12

24. **BACK** Press the **BACK** key to return to the MAIN MENU.

REPORTS / ET & RAIN TABLES.

From the MAIN MENU screen.
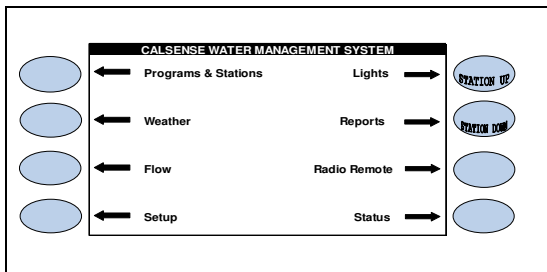
1. Press the **REPORTS** Menu key (Figure 13).
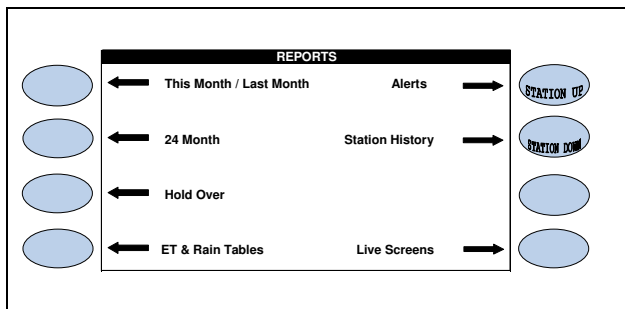

Figure 13

The REPORTS screen (Figure 14).

Figure 14

2. Press the **ET & RAIN TABLES** Menu key.
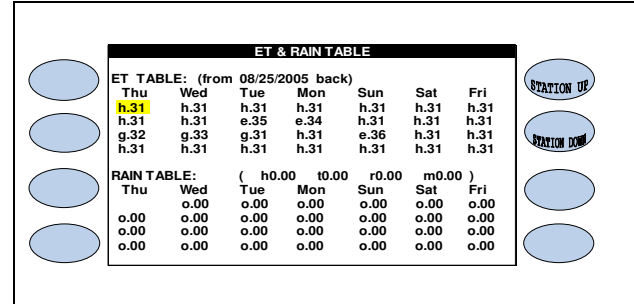
The ET & RAIN TABLE screen (Figure 15).

Figure 15

The ET & RAIN TABLE (Figure 15) is where the controller stores daily ET numbers (measured in inches). The numbers in the table are used to determine the amount of irrigation to be applied by each station. The numbers in the ET table can be generated from the following sources:

1. Automatically generated from an ET Gage wired to the controller.
2. Automatically shared from another controller connected to an ET Gage using Calsense Command Center software. (Controllers must have communication capabilities to share ET).
3. Historical ET which is automatically entered into the ET Table when Daily ET is enabled, and remains in the table until it is replaced by real time ET from an ET gage or manually edited by the user.
4. Manually edit the ET Table.

The ET table stores the last 28 days of ET numbers. In the example in Figure 15 the ET table has a combination of Historical ET, actual real-time ET and user edited ET. The letter next to each number indicates how the number got into the ET Table:

e – Edited, This means the (ET) number was edited at the controller by a user.
g – ET Gage, This means the (ET) number was retrieved from actual real-time (ET).
h – Historical, This means the (ET) number was retrieved from historical (ET).
c – Central, This means the central created the (ET) number due to the real-time (ET) being below the minimum (ET) allowed by the user.

Prior to irrigation, the controller will read the number in the ET table and use it to recalculate the irrigation run times for each station.

3. **BACK**   Press the **BACK** key twice to return to the MAIN MENU.

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