You will find the programming of your new controller to be a very quick and pleasant experience! The EPIC system was designed with two major goals, 1. Efficient delivery of irrigation needs and 2. Simplified programming.

**A reminder of the EPIC System attributes:**

48 individual Programs

- 6 start times in each program (multiple intervals controlled by each start time)
- Each start sequence can control multiple stations
- All Stations can be controlled by multiple Programs and Start Times
- All Stations can be operated simultaneous
- Minimum ON time is 1 second
- Minimum OFF time is 1 second
- Programs and Stations can be named

Schedule intervals:

- Minimum 1 day
- Maximum 32 days (any sequence)

Scaling (10% to 100%)

Suspension of program for a defined period with automatic restart

Suspension of Individual stations with automatic restart

Four programmable sensor inputs

“HELP” screens integrated into the system program

Automated system fault detection
EPIC system should be properly mounted and connected to a properly installed 110VAC power source.

The EPIC system is activated by turning the power switch found on the right side of the controller to “ON”. After approximately one minute for the main processor to load the operating system and application program, the touch monitor should appear as below:

![SYSTEM SCREEN](image)

The programming choices are clearly identified on the monitor. Also, you will note that “functional hints” are located beside each option button. It is a good idea to check the status of the system.

**SYSTEM STATUS**

Pressing the **STATUS** button takes you to a screen listing all the system stations. Pressing a station button will list the status of that particular station. Below is a typical screen shown if station 1 is selected:

![STATUS SCREEN](image)
This screen displays all stations and their status. The screen above is a typical screen for a 40 station system.

Color indicators along the bottom of the screen indicate the program status and if an individual station has a detected fault. Press the station number for a more detailed status of the selected station. In the left column of the screen is the following information:

A. SCHEDULE (see explanation below)

B. The STATION selected and the location of the expansion module

C. Which program(s) are addressing this station

D. Fault information (a simulated blown fuse is shown, with the fuse number and its location within the system reported)

Pressing the SCHEDULE button activates the screen below:

![STATION SCHEDULE](image)

This is a twenty four hour graphical display of the full schedule of the selected station. Remember individual stations can be addressed by multiple programs and start times! The graph has 5 minute increments but will report operations as short as 1 second! The day of the reported operations is reported at the bottom of the graph. Pressing the NEXT DAY button will graph the schedule for the following day. Pressing the NEXT DAY button also activates a PREV DAY button. Thus the operator can move “forwards or backwards” to look at all schedules for the particular station. The number located at the bottom right (00:49 ON) indicates the accumulated run time of this station for this particular day.

RETURN directs the system to the previous screen.
INITIAL SYSTEM PARAMETERS

Upon initial installation, the system options must be set in order for the system to operate correctly. Pressing the OPTIONS button will activate the following screen:

INPUT SCREEN

This screen allows you to configure the inputs and the remote, but let’s come back to that later (see INPUTS)

Press the “down arrow” and the following screen will appear:

SYSTEM SCREEN (second option)

A: SET CLOCK: Pressing this button activate in screen below:

CLOCK SET SCREEN
Pressing the appropriate buttons allows the correct time to be set into the system clock. Note that the time set will be displayed on the bottom right of the screen. Power interruptions should not “reset” the clock.

When the correct time is displayed, press the SET button. This sets the clock and the previous screen returns.

B: SET DATE: The SET DATE button will activate the calendar screen shown below.

![SET DATE SCREEN]

Arrows on each side will allow the correct month to be chosen, and then press the correct date. Do not forget to SAVE! “Save” and the previous screen returns.

C: START OF DAY: The START OF DAY button provides the option of starting the day at some time other than 12:00 AM (SYSTEM DEFAULT). This allows special need irrigation cycles to start and finish within the same defined day. Pressing this button will activate the time input screen shown below:

![SET START of DAY SCREEN]

The desired time can be entered and pressing SAVE stores the time and will return the system to the OPTIONS screen.

D: END OF DAY: The END OF DAY can be set to correspond with the time set in selection C: above.
LINKING PUMP STATION TO OTHERS

Pressing the PUMP button activates the screen below which allows you to designate any station as a “pump station”. The pump station has a special function allowing you to link any station to the pump station. Operation of any of the linked stations will operate the pump station.

![SET PUMP SCREEN](image)

SET PUMP SCREEN

Press the number of the station desired to be the pump station. The number of this station will be changed to a red “P”. Station 40 is the designated pump station in the above screen.

Pressing the SET PUMP button will save your selection of pump station and activate the following screen:

![PUMP LINK SCREEN](image)

PUMP LINK SCREEN

Stations designated to be linked to the pump station can be selected by touching the desired station button. Any or all stations can be so designated. The screen above indicates stations
1,3,5,7 are linked to the pump station (40). When any program operates either of these stations, the PUMP station will be operated. DO NOT forget to SAVE!

**CLEAR ALL PROGRAMS WITHIN THE SYSTEM**

CLEAR ALL should be used with caution! This will clear all programs in the system. Do not worry as if you accidently activate this button, you will be asked “are you sure?”. You may want to do this upon initialization of a new system to clear any test programs that may remain in the system from factory testing.

RETURN goes back to the INPUT SCREEN shown above. Here you can designate the functionality of the four inputs:

**PROGRAMMING INPUTS**

Pressing the screen to the right of either of the INPUT buttons will activate the KEYBOARD screen:

![KeyBoard Screen](image)

**KEYBOARD SCREEN**

Pressing the appropriate keys allows each program to be given a name of your choice. In the example above INPUT 1 is named “FROST” and INPUT 4 is named “RAIN”.

Pressing any one of the four INPUT buttons activates a screen that allows the operator to define the parameters of the selected input. The screen activated is shown below:
EPIC Controllers are designed to operate with a number of commercially available sensors. Some sensors provide a “contact closure” upon activation. However, some are just the opposite! By pressing the **BEGIN** button, the activation mode will alternate between “CONTACT CLOSED”, “CONTACT OPEN”, and “NO ACTION”. Select “NO ACTION” to disable the input. The **END** button automatically alternates between the opposite of the start button. This allows the system to be configured to match the selected sensors.

The **MANUAL** button allows the operator to initiate the actions specified by the input programming.

The **PROGRAM** button provides for selection of a program or multiple programs which have been designed to operate when the sensor is activated. Pressing this button activates a screen that has a button corresponding to each program in the system. Pressing the desired program will designate the selected program to be activated IF the sensor is activated. After a program is designated, when the operator goes to that program location, the designation of the program will be “INPUT X PROGRAM”. Also, this program will only have one start time (start time is when activated!)

The **SUSPEND** button provides the capability to suspend active programs while the sensor is activated. Selecting a program(s) to be suspended is the same procedure as selecting a program(s) to be activated (see above paragraph).

When the sensor returns to “normal” conditions, the system will resume operation of all programs.

**SAVE THE SETTINGS! - ALWAYS**

**CASE 1.**

A Frost Sensor (contact closed) is connected to input 1. Program 35 has been implemented to provide the desired irrigation during a frost situation. All other programs have been selected to be suspended during the frost situation. When the frost detector is activated, ALL designated programs will be suspended, and the **SELECTED** program will be implemented. NOTE: Frost
Sensors can be as elaborate as desired, or as simple as a manually operated switch! A manual switch can be connected to an input. When the person in charge of monitoring the conditions, determines that frost is likely, the switch is operated, and the system responds by implementing the designated program(s). An alternate method would be to go directly to the option screen and select the manual feature.

**REMOTE OPERATION**

Pressing the REMOTE button activates the following screen:

![Remote Operation Screen]

**REMOTE SETUP SCREEN**

The REMOTE OFF button allows the operator to disable the remote by setting the remote to OFF. This is a toggle button between “on” and “off”.

The MINUTES button allows the operator to activate the remote in seconds rather than the system default of minutes. Mode is indicated to the right of the button.

On the right of the screen is the information section. The Station XX reports if a station is activated via the remote. Just below this is the time information. The reported time is the remaining time of the remote activation.

**STATION LIST**

Return to the INPUT SCREEN. The last selection on this screen is STATION LIST. This unique feature allows the operator to name each station within the system. Pressing the STATION LIST button activates a screen with a numerical field of buttons corresponding to each station. Pressing the “NUMBER” button of any station will activate the now familiar “keyboard screen”. Thus the operator can individually name each station. Pressing DONE will save the individual station names.

The retrieval of these names is most unique!! The list can be retrieved for any screen in the system that has a TIME TAG. The TIME TAG is the “notation of time” found in the bottom right of most screens. Pressing the TIME TAG will activate a screen of all the station names! This very unique feature allows the operator access the list of station names from anywhere in the system this information is needed. Pressing the station list screen will return the operator
back to the screen from which the list was activated. The unique feature precludes the need to scroll to the list and back to screen where the information is needed.

**BACKUP, RESTORE, VERSION**

The last OPTION screen (press **OPTIONS**, then the “**down arrow**” twice) has three buttons. The first of these is the **BACKUP** button. This button allows the operator to make a back up record of the system programs. Place the backup thumb drive into the standard USB connector located near the middle of the system board. Opening the monitor panel reveals this double USB connector. A system cable should be in the bottom slot and the back up thumb drive should be inserted into the top slot. With the thumb drive in place, the operator is ready to make a backup copy of the system programs simply by pressing the **BACKUP** button. This can be done at any time the operator chooses.

To restore the system using a back up copy, insert the back up thumb drive into the proper slot and press the **RESTORE** button. The system programs will be restored to the back up position.

The backup thumb drive should not be stored in the system. This may cause the system to malfunction and the backup data may be lost.

Pressing the **VERSION** button will report the version of the system software.

Press the **RETURN** button twice will return the system back to the SYSTEM SCREEN. From here you can begin defining the irrigation programs.
CONTROL PROGRAMING

Control program selections are implemented by pressing the **PROGRAM** button on the SYSTEM SCREEN. Pressing the **PROGRAM** button activates the following screen:

![Program Selection Screen]

Immediately notice there are forty-eight independent programs available ("down arrow" brings in additional programs). By pressing to the right of the **PROGRAM X** button, a "keyboard" screen is activated. (See above) Using standard input procedures, the program can be named. This can relate to the location, application, or any name the operator desires. Pressing the **PROGRAM X** button activates the screen below. Notice the program number is displayed at the top of the screen.

![Program Definition Screen]

**PROGRAM DEFINATION SCREEN**

**START TIMES**

Pressing the **START TIMES** button activates the following screen revealing each of the six start times within each program.
Note that to the right of the selection buttons are the attributes of each start time are recorded for a quick reference. Pressing any of the **START TIME** buttons will activate the screen below. This screen allows definition of individual start times.

**INDEPENDENT START TIME**

Pressing **START TIME** activates the time input screen shown below:
Default times are AM. Proceed by entering the desired START TIME by sequentially pressing the appropriate buttons. If desired times are PM, press the PM button. For example, 3:15 PM is entered in a sequence of 3, 1, 5, PM. Pressing DONE will save the entry and return system to previous screen. Note the selected start time is displayed to the right of the START TIME button.

**INTERVAL**

The interval is defined as the time from the initiation of one cycle to the initiation of the next cycle in a sequence.

Pressing the INTERVAL button activates the following screen:

![INTERVAL INPUT SCREEN](image)

The interval can be defined in minutes/seconds or hour/minutes. By touching the m:s button, the input time is designated in minutes/seconds. DONE saves the entry and returns to the previous screen. If no interval is specified, the system will calculate the minimum interval as a default value.

**END TIME**

A specified end time is necessary if the operation is a repetitive process (defined below). If the process is defined as a specific number of cycles, the program will end when the last cycle is completed, thus no end time is required. If no end time is specified in a repetitive operation, the operation will continue until END OF DAY.

**RUN TIME**

Pressing the RUN TIME button activates the screen below:
Any station can be selected to be controlled by multiple programs and multiple start times. Each station is selected by pressing the corresponding button. If a button is selected in error, pressing it again will deselect it. All stations can be assigned a common run time or each station can be assigned an independent run time. Simply press the desired station buttons and then press SET TIME button. The TIME INPUT SCREEN shown above will appear and the run time can be entered. DO NOT forget the hours/minutes and minute/seconds selection. Pressing the DONE button saves you entry and returns to the RUN TIME screen. A different station or group of stations can share a common start time but with different run times. Simply repeat the procedure above of selecting the desired station and pressing RUN TIME. Thus it is possible for each station to start at the same time, yet have independent run time!

SELECT ALL is a quick entry button that selects all stations.

CLEAR ALL is a quick entry button that deselects all stations.

The SEQUENCE button allows the stations to be either operated in sequence or simultaneously. In the example shown in the screen above, if stations 1 thru 8 are operated in sequence, as each station is completes the designated time, the next station will be activated. If the simultaneous option is chosen, all eight stations will operate at the same time. System default is to operate the stations in SEQUENTIAL MODE.

Pressing the CYCLE button activates the following screen:
The number of cycles can be any number up to nine; however, caution must be used such that the number of cycles can be performed in the given time as defined in the START TIME and the END TIME. However, if a given cycle interval is to be repeated until the defined STOP TIME, just press the REPEAT button. The defined cycle will be repeated beginning with the START TIME and ending at the specified END TIME. System default is 1 CYCLE.

When entry is completed, DONE saves the input and returns system to previous screen.

The COPY TO button allows the data from this screen to be copied to another start time.

To save data press RETURN (returns to previous screen) then SAVE. Answer the question YES!

**SETTINGS**

Press the RETURN button TWICE and the system returns back to the START TIME SCREEN. The START TIME screen is shown below:

![START TIME SCREEN]

As each start time is programmed, the label will appear in red. Immediately to the right of the START button is the programmed START TIME (5:00AM in the screen above). To the right of the programmed time is the SETTINGS button. Pressing this button provides a record of the programmed attributes of this specific start time. Pressing this button activates the screen below:
SETTINGS REPORT SCREEN

This screen has a wealth of information!

1. Program number
2. Start number
4. Schedule (daily)
5. Start Time (05:00:00)
6. End Time (23:00:00)
7. Interval (1:40:08)
8. Number of stations controlled (10)
9. Sequential operations
10. Repetitive /Cycles
11. Designated stations with run times of each station

Press anywhere on this screen returns the system to the previous screen.

Press the RETURN button (twice) to return to the PROGRAM DEFINATION SCREEN.

START DAY

Pressing the START DAY button activates a now familiar calendar screen. Press the date corresponding to today’s date and the program is activated immediately. HOWEVER, activation can be delayed to a future date by selecting the date activation is desired. This allows the
operator to program the controller for future applications. When the desired date occurs, the program will be activated. DO NOT forget to SAVE!!

SAVE returns the system to the previous screen.

**SCHEDULE**

Pressing the SCHEDULE button activates the schedule screen below:

This screen allows the operator to designate the schedule of a particular program. A schedule can be any number of days up to 32. As this schedule is completed, it is repeated until the program is deactivated. Thus, schedules are initiated by pressing the NUMBER corresponding to the number of days in the schedule (pressing “7” will initiate a weekly schedule). As the schedule is selected, the remaining buttons will be erased.

If the program is to run everyday, press the “today” button. The remaining days will be erased. Press SAVE. This will implement program and its specified attributes daily.

If the program is to run every other day, press 2 and select the active day. A weekly schedule is selected by pressing 7. After the number of days in the schedule is selected, the active days are selected by pressing number corresponding to the days that is to be active, i.e. Monday, Wednesday, and Friday. Thus, it is possible to activate the program only on the desired days within the schedule. DON’T forget to SAVE!! SAVE will return system to previous screen.

**SCALING**

If conditions warrant, the run times of a program can be scaled. Pressing the SCALE button activates a numerical input screen as shown below:
Entering **50** from this screen will reduce all watering times to within the program to 50%. The scale factor can be any number between 10 (10%) and 99 (99%). **NOTE!** ANY PROGRAMMED TIMES LESS THAN ONE MINUTE WILL NOT BE SCALED! Press **DONE** to enter the desired scale factor into the system. **RETURN** will send the system back to the PROGRAM input screen.

**SUSPENSION OF PROGRAM**

The SUSPEND function allows the operator to suspend the operation of this program. Thus programs can be suspended individually. Pressing the **SUSPEND** button will activate the screen below.

Press the **SUSPEND DATE** button will activate a calendar screen. Choose the date to suspend the program. This can be “today’s date” or any date in the future. Press the **RESUME DATE** button will also activate a calendar screen. Here the operator can choose a date the controller will resume the program.

If the resume date is not know, pressing the **INDEFINITELY** button will suspend the program until the suspension is canceled manually. Pressing the **CANCEL** button will cancel all previous commands. This can be done at any time in the future it is desired to restore the program to active status. **NOTE:** It is necessary to press **SAVE** to activate all commands!
DO NOT FORGET to press the SAVE button! No action will be taken until the SAVE is pressed!

**SUSPENSION OF STATIONS**

Suspension of station(s) is initiated from the SYSTEM SCREEN. From the SYSTEM SCREEN (see above) press the STATIONS button. That activates the screen below:

![SUSPEND SCREEN](image)

The screen above shows that all stations are active. As a station(s) is chosen to suspend, the button will go “flat”. Then hit the SET button and the selected station(s) will be immediately be suspended. At this point, no programs can activate the suspended station(s).

Station(s) that have been suspended can be restored to active status either on a selected day at a specific time, or immediately. If immediate restoration is desired, press the number of the station to be restored and then press the SET button. The option to restore stations to active service on a specific date is achieved by pressing the RESTORE DATE button. This activates the familiar CALENDER SCREEN. Chose a date for the station to be restored to active status. Pressing the RESTORE TIME button activates the familiar time input screen, allowing the operator to specify a specific time on the specified date the station will be restored to active status.

**SYSTEM SHUTDOWN**

If at any time it is desired that the controller suspend all operations, the SUSPEND ALL button provides the ability to do this. Press the SUSPEND ALL button and the SET button to implement complete system shutdown.

The RESTORE ALL button restores all suspended stations to active status. Press RESTORE ALL then SET to restore all previously programmed activity.
After making your desired selection to either suspend or restore, DO NOT FORGET press the SET button. This will implement your desired actions immediately.

**MANUAL OPERATION**

Manual operation of individual stations (or groups of stations) can be programmed by pressing the MANUAL button on the SYSTEM SCREEN (See above).

Pressing the Manual button will activate the screen below:

![Manual Operations Screen](image)

**MANUAL OPERATIONS**

Select any station(s) to operate manually by pressing the corresponding station number. Then press the SET TIME button and the now familiar time input screen will appear. Input the desired operation time and press DONE. Remember the system default times are h:m. System default is for the selected stations to operate in sequence, but pressing the SEQUENCE button will change this to simultaneous. If more than one cycle of operation is desired, press the CYCLES button and input the number of desired cycles. System default is 1 cycle. If more than one cycle is programmed the INTERVAL must be specified, otherwise the system default is the minimum interval.

Each station(s) can have independent attributes, ie. different runtimes, sequence, cycles and intervals!

Pressing the START button initiates the programmed actions. The START button will become the STOP button. If at any time, it is desired to terminate the manual operation, press the STOP button. All manual operations will cease and normal operations will resume.