
NETWORK 8000
SATELLITE
User's Guide

TORO.

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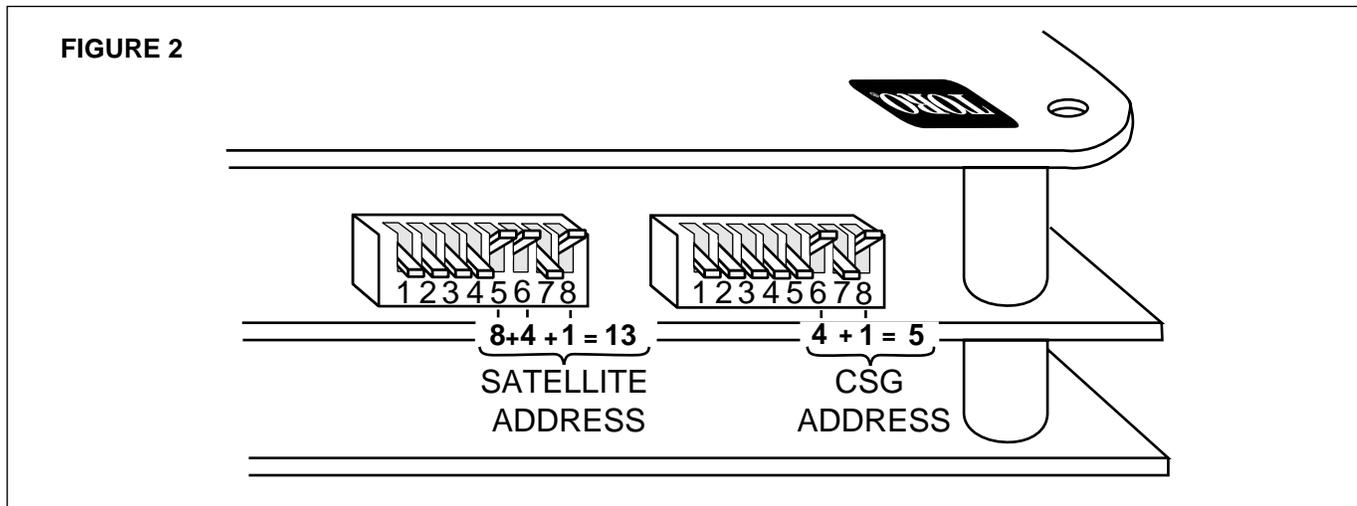
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NOTE: The following procedure must be performed as a part of the initial installation of the Network 8000 system. It need not be performed again unless physical system changes require it.

Initializing the Satellites

After installing your Toro Network 8000 Satellites, the first thing you need to do is set some switches that are located under the Control Panel. These two sets of switches will set the Satellite Address and the CSG Address. The CSG Address, or the Central Satellite Group, will identify to which CSG group this Satellite belongs. The Satellite Address identifies which Satellite it is. The latter is a unique number. The CSG Address may be likened to a street name and the Satellite Address may be likened to the house number.

To set these switches, you must first remove the Control Panel by removing the four (4) mounting screws that attach the Control Panel to the top of the Satellite. Then carefully remove the Control Panel by lifting it up. DO NOT YANK IT OUT as it is connected by several cables. The upper-left corner of the Control Panel contains the Toro logo. Under this edge you will find the two (2) DIP Switches. When facing the front panel TORO LOGO, the switch directly beneath it and to the left sets that Satellite Address and the one on the right sets the CSG Address (refer to Figure 2).



These switches use binary coding so that the rightmost switch of either switch block (the one marked as number “8”) represents a one. Moving from right to the left, the numbers increase and we get::

S2	S3	S4	S5	S6	S7	S8
64	32	16	8	4	2	1

The top row indicates the switch number and the bottom row indicates the value when that switch is “ON”. If s6 and s8 are “ON” then we get 4 + 1 which is 5. Thus, 5 is the address set by that DIP switch. If only s4 is “ON” then the address is 16. If s5, s6 and s8 are “ON” then we get 8 + 4 + 1 = 13 thus 13 is the selected address.

Initializing the Satellites (continued)

Once you have chosen CSG and Satellite address values for each Satellite (making sure that the SATELLITE ADDRESSES are all unique within a CSG ADDRESS; the CSG ADDRESS may be the same for all Satellites if you wish) you must then INITIALIZE each Satellite.

1. Disable the power to the Satellite by removing the leftmost 3 amp fuse that is located on the box that you removed in order to make the power connection.
2. Depress the DOWN ARROW and hold it down.
3. Apply power to the Satellite again by replacing said 3 amp power fuse. This fuse is the leftmost fuse located at the bottom left of the Satellite. It is labelled "3 AMP FUSE".
4. Release the DOWN ARROW.

After this the following will occur:

1. The satellite will sound two (2) short beeps and then one (1) long beep.
2. A date will be displayed in the FUNCTION window. This is called the REV.CODE.
3. The following will be displayed in the two INFORMATION windows.
ALL PARAMETERS
ARE INITIALIZED
4. The INFORMATION windows will then go blank.
5. The power line frequency will be displayed in top Information Window (e.g., 60 Hertz) for a few moments and then go blank.
6. The display will then change to the normal AUTO mode and the CLOCK window will indicate that it is Sunday and 12:00 AM.

About Defaults

After initialization, certain “defaults” are assumed by the Satellite. Time, date, and day of the week are examples of defaults. The following is a list of all the assumed CONFIGuration and WATERing defaults:

Time.....	12:00 AM
Day	SUNday
Cycle Day.....	01
Date.....	01/01/87
Clock Mode.....	12 hour (AM/PM) clock
Day Change	6:00 AM
Days/Cycle	14
Program Limit.....	4
Programs (programs 1–8).....	blank
Water Times (all stations)	000
Active Days (all days)	OFF
Start Times (all start times).....	OFF
Syringes	None
Repeats (all programs)	0
Global %	100

Features

The TORO NETWORK 8000 Satellites provide for automated control of up to 32 watering Stations. For added versatility, you may use your Satellites in one of two different modes: CENTRAL (remote) control or SATELLITE (field) control.

When the Satellites are under remote control, your TORO NETWORK 8000 Central directs the watering schedules of the Stations connected to the Satellite. Programming is then done through the Central and the TORO NETWORK 8000 program.

Under SATELLITE mode (field control), watering schedules are programmed from the Control Panel by you (the operator). You may also manually override any program that has been downloaded by the Central.

SATELLITE mode programming is the subject of this section. For a discussion of Central control programming, see the section titled “Programming the NETWORK 8000 Central.”

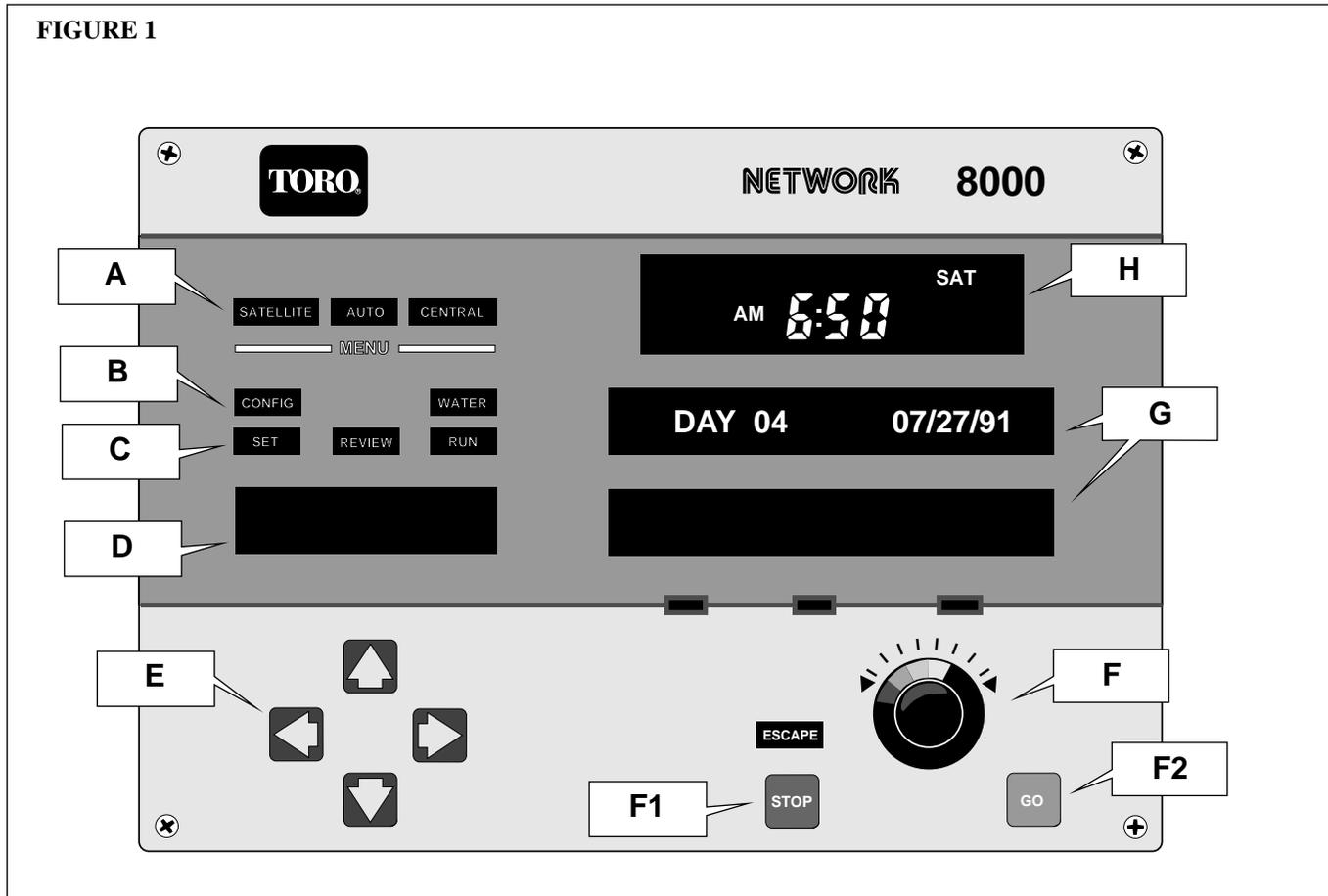
Depending on what model type the Satellite is, the location of the CONTROL PANEL is either under the hinged cover at the top or behind the hinged door at the front of the Satellite. In either model type there is no change in the way the Satellite operates or in the way it is programmed by you. And also, there are no changes in the CONTROL PANEL design in either model type.

NOTE: This Operator's Manual is the same for both Satellite models.

Control Panel Operation

SATELLITE (field) programming is accomplished at the Control Panel by you. The Control Panel whether located under the hinged cover at the top or behind the hinged door at the front of the Satellite is identical to the pictorial below (see Figure 1).

FIGURE 1



This Control Panel is divided into several sections. The upper left portion of the panel (A) contains the three MODE LEGEND DISPLAYS: SATELLITE, AUTO, and CENTRAL.

When lighted, these MODE LEGENDS indicate the operational mode of the Satellite. Its mode will be selected automatically by the Satellite itself.

If it is receiving instructions from the Central, then the CENTRAL legend will be illuminated.

If the Satellite is under self-control the SATELLITE legend will be illuminated and the CENTRAL legend will be illuminated.

If communication with the Central is not detected for a period of 15 minutes, the Satellite will illuminate the SATELLITE legend.

In either SATELLITE mode or CENTRAL mode the AUTO legend will be illuminated. The AUTO legend will extinguish when you take control of the Satellite by accessing the Control Panel through the CURSOR KEYS (the arrow keys at the bottom left of the panel; **E**). The AUTO legend will automatically illuminate again after 15 minutes of inactivity from you.

Located directly below the MODE LEGENDS are the two MAIN MENU legends: CONFIG and WATER (**B**).

Below the MAIN MENU legends are three more Legends called the SUB MENU legends: SET, REVIEW, and RUN (**C**).

Below the SUB MENU legends is the FUNCTIONS Display Window (**D**). This window houses an eight (8) character ALPHANUMERIC DISPLAY and displays for you a choice of functions. You make your choice by dialing the MASTER CONTROL KNOB located in the lower right portion of the panel (**F**).

The following summarizes where each Function is with regard to menus and sub-menus:

CONFIG (Main Menu)

SET (Sub-Menu)	REVIEW (Sub-Menu)
12/24 HR. DAY CHNG. DAYS/CYC. PROG. LMT. METRIC TRI.AMPS CENT.START STA. DLY. FLOW STD.	SAT. ADDR. 12/24 HR. DAY CHNG. DAYS/CYC. PROG. LMT. METRIC TRI.AMPS REV. CODE RF TEST CAL. AMPS CAL. VOLTS LINK MON.

WATER (Main Menu)

SET (Sub-Menu)	REVIEW (Sub-Menu)	RUN (Sub-Menu)
PROGRAM ACT DAY START TM. P.P.SYR. REPEATS SOAK STA. ADJ. SAT. RPT. GBL.ADJ. CLOCK CALENDAR	STATUS PROGRAM ACT DAY START TM. P.P.SYR. REPEATS SOAK STA. ADJ. STA. RPT. GBL. ADJ. CLOCK CALENDAR TOT.TIM.AS. T.TIMEGBL. VLV.COM.A. AMB. TEMP. PRESSURE SENSORS FLOWRATE SENS.DISP.	PAUSE PROG. NO. PROG. RPT. STA. NO. MULT. MAN. SYRINGE CANCEL CAN ALL TRIACS PILL CHK. CTRL. REQ. STA. DSABL.

Control Panel Operation (continued)

Below the FUNCTIONS Display Window are the four CURSOR KEYS (directional Arrow Keys; **E**). These arrow keys are known by the direction they face: Up, Down, Left, and Right. You move through the MAIN MENU and SUB-MENU by pressing the appropriate CURSOR KEYS. The first time you wish to SET or REVIEW the CONFIGuration you must first press the Down Arrow key. The AUTO legend will extinguish and the WATER legend will illuminate. By pressing the Down arrow again, you will have selected WATER as the main menu choice (the WATER legend will remain lighted) and will now be able to choose which one of the three SUB-MENU legends you desire.

To continue with SETting or REVIEWing the CONFIGuration...

Once the WATER legend has been illuminated, you may select it as your MAIN MENU choice (by pressing the Down arrow again) or you may press the Left arrow key causing the CONFIG legend to illuminate and the WATER legend to extinguish.

The CONFIG menu choice is selected by pressing the Down arrow key. The REVIEW legend then becomes illuminated. You may then “toggle” between SET and REVIEW (by pressing alternately the Left then Right arrow keys) and select which function you wish by pressing the Down arrow key for a third time.

At this time we should note the following:

- ❑ movement through the menu is only downward, however you may press the key marked STOP to restart with an illuminated AUTO legend.
- ❑ you select an item (e.g., CONFIG) by pressing the DOWN arrow key.
- ❑ You may “toggle” through options which are on the same line by pressing the RIGHT and LEFT arrow keys.
- ❑ the MASTER CONTROL KNOB is rotated (dialed) to “scroll” between selections that are displayed on the FUNCTIONS Display Window.
- ❑ when the desired function appears in the FUNCTIONS Display Window, you may select it by pressing the RIGHT arrow key.

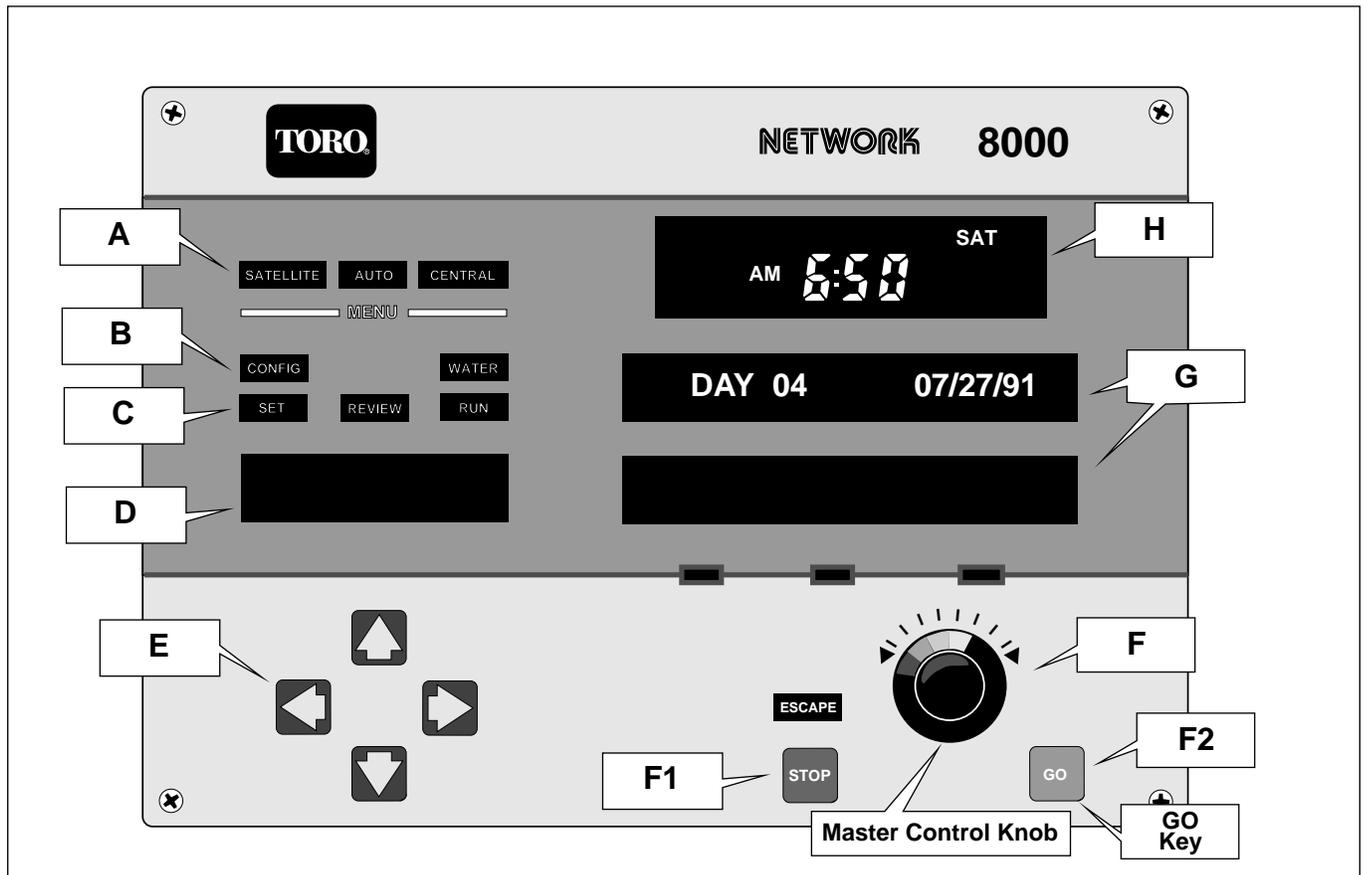
Master Control Knob

In the upper right portion of the Control Panel (H) is the CLOCK Window. This window shows the time of day (also AM or PM if the 12 hour clock mode has been selected when the Satellite was initialized) as well as day of the week information.

Below the CLOCK Window are two INFORMATION WINDOWS (G). These 16 character alphanumeric window displays show system status and program information. Actual programming will take place here by setting options using the MASTER CONTROL KNOB and CURSOR KEYS (directional arrow keys).

Below the Information Windows, is the MASTER CONTROL KNOB, the STOP (escape) KEY and the GO (execute, enter, or program) KEY. The MASTER CONTROL KNOB is used to select functions in the Function Display Window and to change programming information in the two Information Windows. By pressing the STOP KEY, you can abort (escape) any entry operation that you are doing and return it to the illuminated AUTO legend.

After the menu has been traversed and options have been selected by turning the Master Control Knob, pressing the GO KEY will cause the selections to be permanent. It's like pressing the "enter" key on a calculator, you are telling the Satellite to accept the new setting. After pressing the GO KEY, all legends and displays will resume their normal state. The AUTO legend will illuminate once again and you may review a different setting or make another program change.



PART 1 Setting-Up (Configuring) the Satellite

The following procedure will be used to set each function in the CONFIG.SET Menu:

Press  – this extinguishes the AUTO legend and illuminates the WATER legend

Press  – this extinguishes the WATER legend and illuminates the CONFIG legend

Press  – this illuminates the REVIEW legend.

Press  – the REVIEW legend is extinguished and the SET legend is illuminated.

Press  – the FUNCTION Display Window displays the first function in the Menu. (12/24 HR. is the first function in the CONFIG.SET Menu.)

Setting the 12 or 24 Hour Timekeeping Option

CONFIG

SET

12/24 HR. (Configure for 12 or 24 Hour Timekeeping)

OPTION:

You may choose how you wish the Satellite to track time; using either a 12 hour clock listing AM and PM, or a 24 hour clock where 1:00 PM becomes 13:00. This affects the Clock Displays as well as the way you will later enter time for programming.

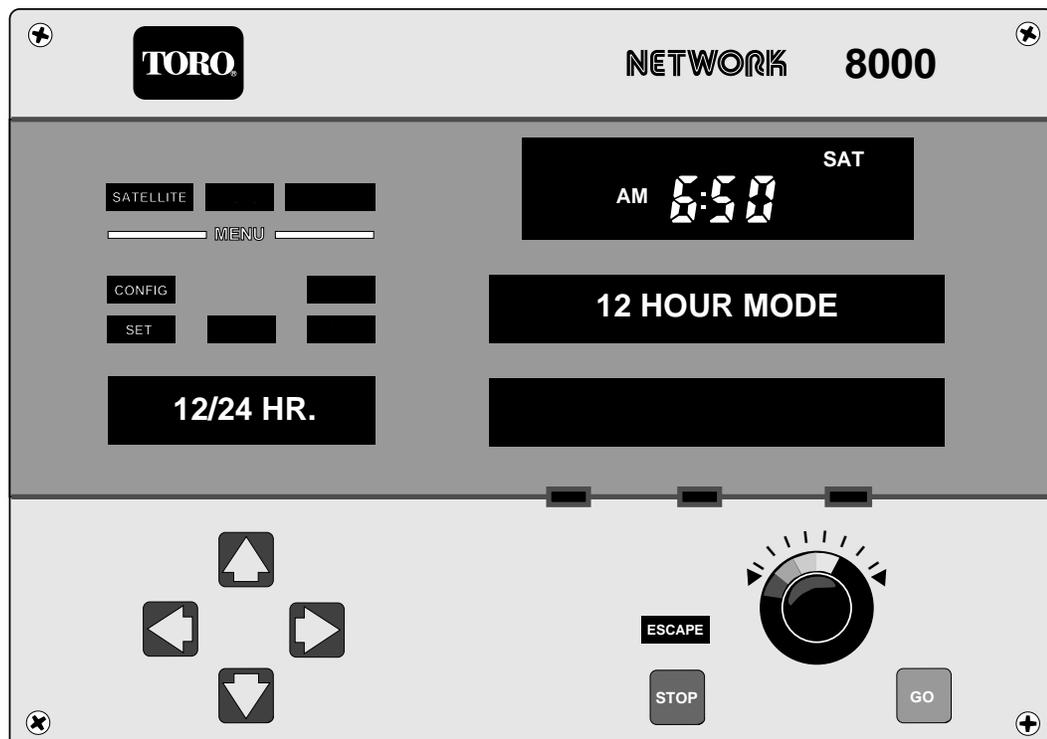
Procedure to set function:

Press  – this locks in the function. The INFORMATION WINDOWS display no options (in lower window) and the HOUR MODE to be selected (in upper window).

Dial  to choose between a 12 hour Mode or a 24 Hour Mode.

Press  – this enters the choice you selected.

What You Will See On The Front Panel
when you are setting the 12 or 24 Hour Timekeeping Option



Establishing the Maximum Number of Simultaneous Programs

CONFIG

SET

PROG.LMT. (Set the maximum number of simultaneous program to run.)

OPTION:

This function is for setting the number of programs that may run at one time. There are 12 separate programs per Satellite, with a maximum of 6 allowed to run simultaneously. You, the operator, specify the number of programs (1–6) to run simultaneously or it can be downloaded from the Central.

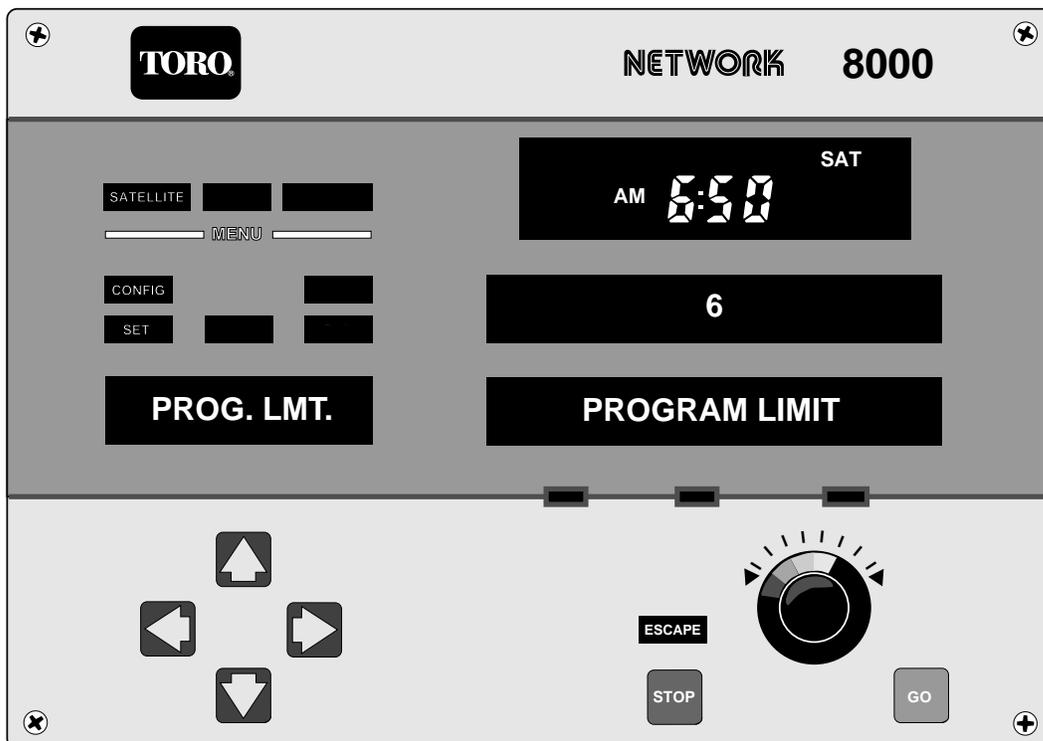
Procedure to set function:

Dial  until PROG.LMT. appears in the Function Display Window.

Press  – this locks in your function while the INFORMATION WINDOWS display the option PROGRAM LIMIT (in lower window) and the choice you select (in upper window).

Dial  to desired number of programs.

Press  to enter your selection.



Defining When It is Time To Start A New Day-Change

CONFIG

SET

DAY CHNG. (Time to start a new day)

OPTION:

A specified time must be set for the Satellite to know what time during the day should be used to advance the CURRENT CYCLE to the next day. The two most common settings would be midnight or 6:00 AM. You may, however, choose any time you like for stand-alone operation. The CENTRAL (in remote control mode) will use either midnight or noon.

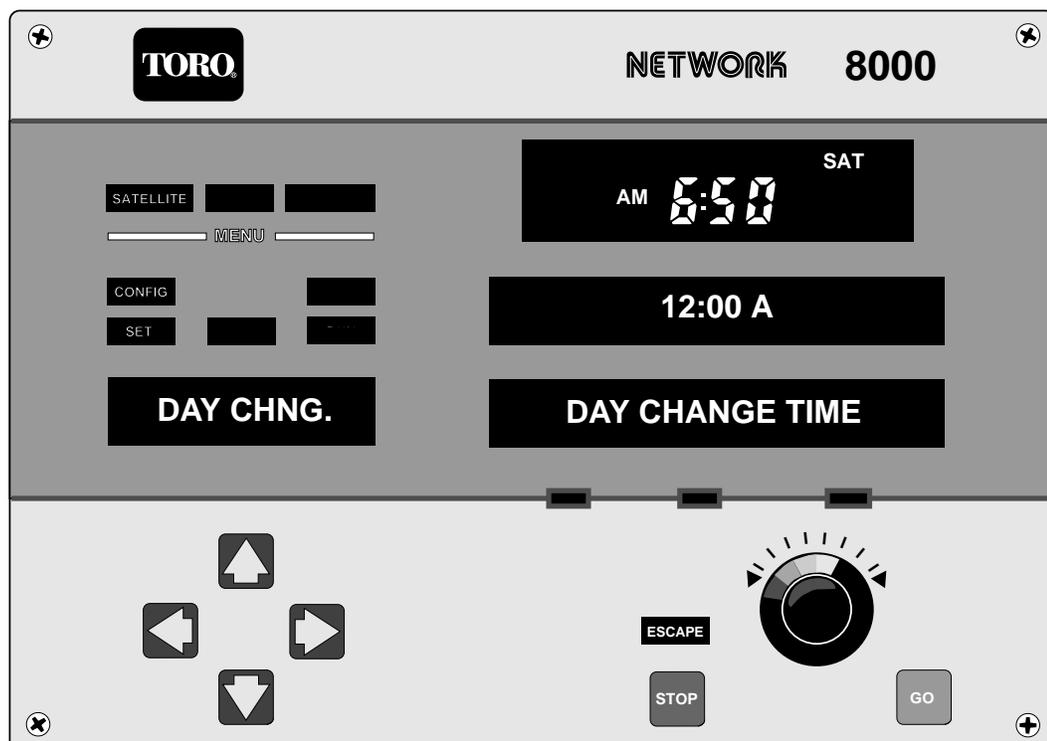
Procedure to set function:

Dial  until DAY CHNG. appears in the Function Display Window.

Press  – this locks in the selected function. The INFORMATION WINDOWS are displayed with the option DAY CHANGE TIME (in lower window) and the clock time to be selected (in upper window).

Dial  to select a desired time setting.

Press  – this enters the time you selected.



Establishing Number of Days In A Watering Cycle

CONFIG

SET

DAYS/CYC (The number of days in a cycle.)

OPTION: [DAY] [CYCLE]

You set the desired number of days (14-day, 12-day, 7-day, 6-day, MONTHLY) a CYCLE is to consist of. Then you choose which DAY (1–14) of that cycle is today. 14-day and 7-day are the most common settings for the cycle length. If, however, you wish to water only every third day, you would want to select a 6- or 12-day cycle and your cycle will repeat every third day regardless of the calendar. Under CENTRAL Station control, 14-day cycles will be standard.

Procedure to set function:

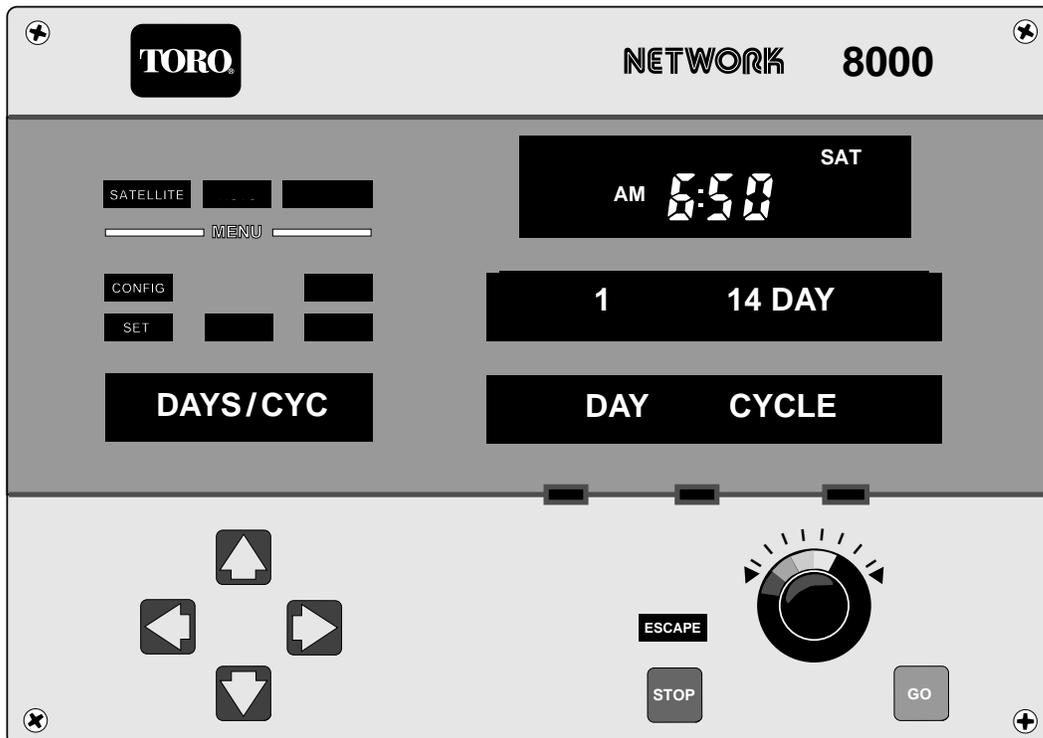
Dial  until DAYS/CYC. appears in the Function Display Window.

Press  – this locks in your function while the INFORMATION WINDOWS display the options DAY and CYCLE (in lower window) and the choice you select for each (in upper window).

Press  and  to toggle between both options.

Dial  to the desired setting.

Press  to enter your selection.



Telling the System What Kind of Measurements to Use: English or Metric

CONFIG

SET

METRIC (Setting the type of unit measure)

OPTIONS:

This function allows you to choose either ENGLISH or METRIC units of measure. This selection will effect those functions that measure: Pressure, Temperature, and Water.

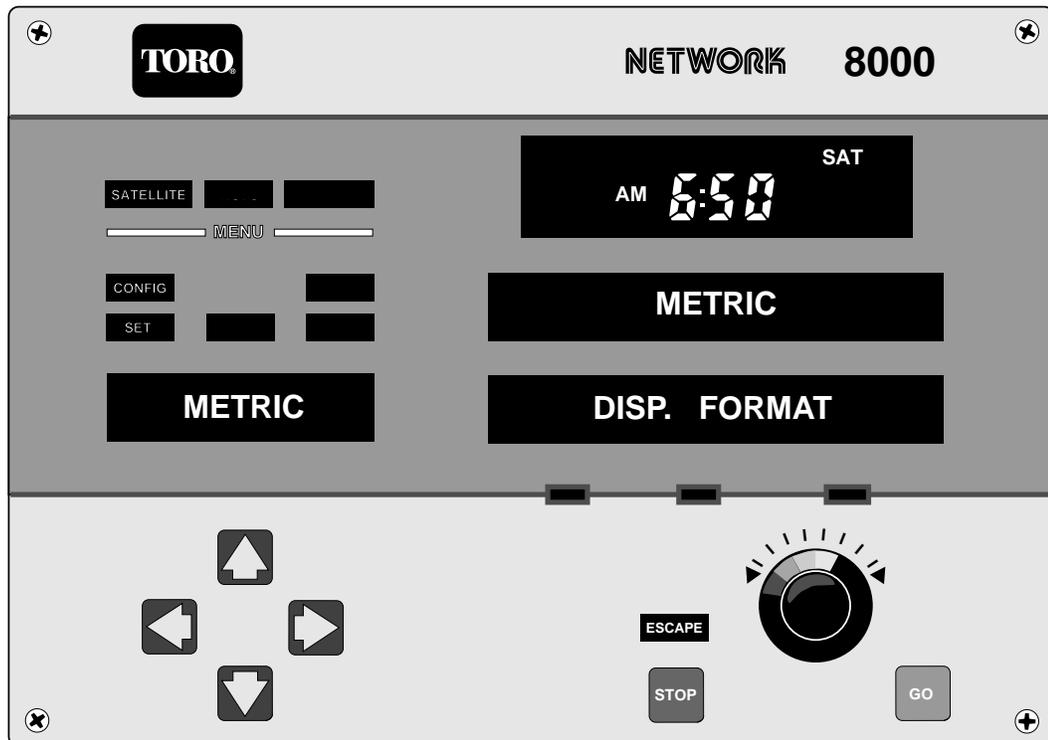
Procedure to set function:

Dial  until METRIC appears in the Function Display Window.

Press  – this locks the function in the Function window and the INFORMATION WINDOWS display the option DISPlay FORMAT (in lower window) and the selection of ENGLISH or METRIC (in upper window).

Dial  to the desired setting.

Press  – this enters the type of measure you selected.



Enabling Or Disabling Extended Starts Downloaded From The Central

CONFIG

SET

CENT.START (Enable or disable the extended starts)

OPTIONS:

This function allows you to select either an ENABLE or DISABLE of the extended starts from Central.

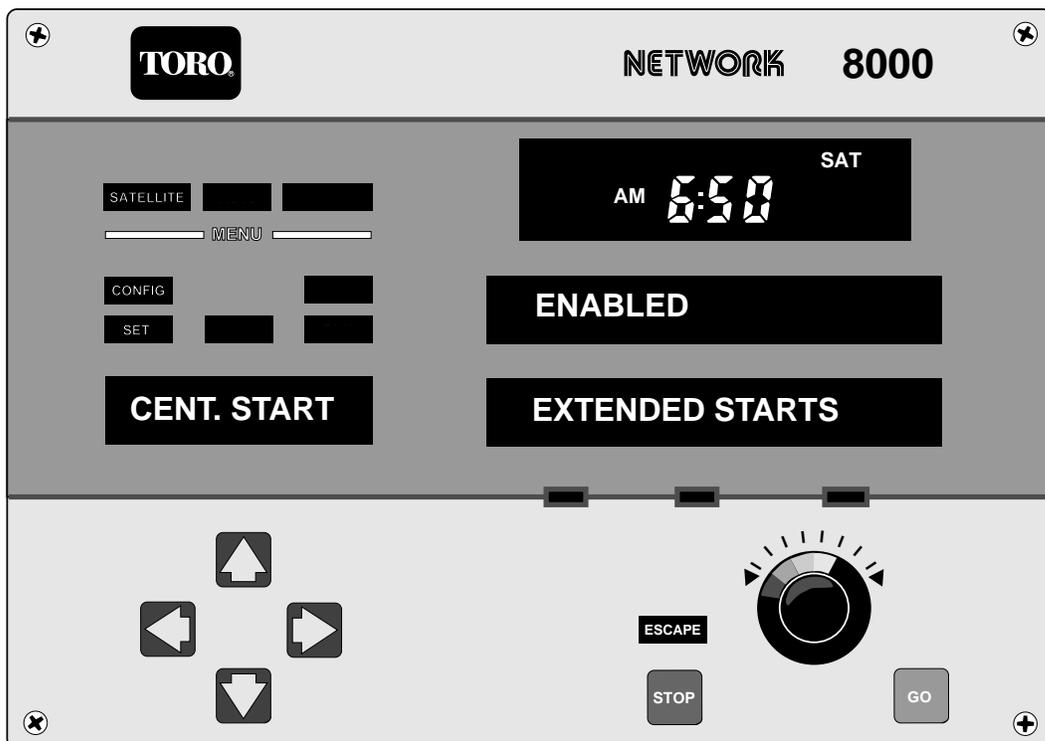
Procedure to set function:

Dial  until CENT.START appears in the Function Display Window.

Press  – this locks the function into the Function Window while the INFORMATION WINDOWS display the option EXTENDED STARTS (in lower window) and the choice of ENABLED or DISABLED (in upper window).

Press  or  to select ENABLE or DISABLE.

Press  to enter your selection.



Setting The Interstation Delay

CONFIG

SET

STA.DLY. (InterStation Delay)

BARS:

You are to set a single delay time in seconds (1–99) between all station run times. This is to allow for closing of one valve prior to the opening of the next, which minimizes flow spikes. This delay is also downloadable from the Central.

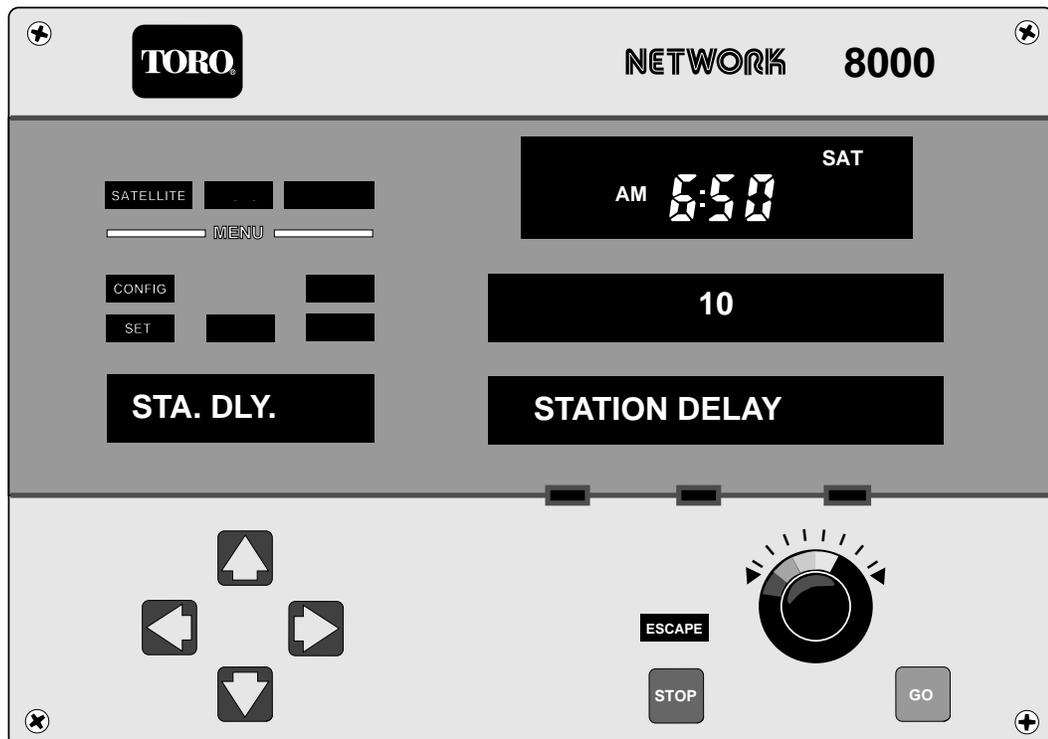
Procedure to set function:

Dial  until STA. DLY. appears in the Function Display Window.

Press  – this locks in your function while the INFORMATION WINDOWS display the option STATION DELAY (in lower window) and the choice you select (in upper window).

Dial  to desired time.

Press  to enter your selection.



Establishing The Automatic Flow Standard Function

CONFIG.

SET

FLOW STD. (Flow Standard)

OPTIONS:

This function when selected and upon pressing “GO” (green key) to start, the Satellite will initiate the automatic turn on of stations and store in memory their associated flow.

The “Flow Standard” sequentially measures the flow data input to the Satellite sensor input PCB and records each station’s flow. (This is for systems designed with flow measurement of total flow used by a Satellite.) Actual flow is compared to the individual station’s flow standard during run of programs. If actual flow exceeds the standard by the specified percentage downloaded from the Central, a high flow status alarm is caused. This alarm is sent to the Central at next polling. These alarms won’t exist unless “FLOW STD.” was run after initialization.

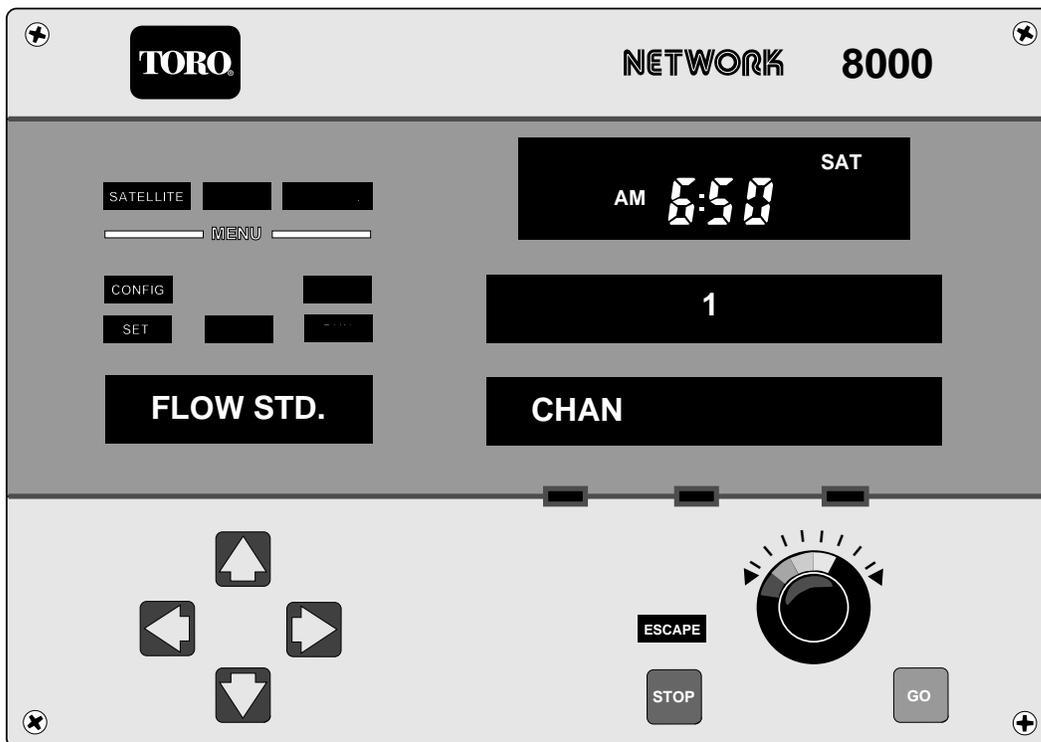
Procedure to set function:

Dial  until FLOW STD. appears in the Function Display Window.

Press  – this locks in your function while the INFORMATION WINDOWS display CHANnel (in lower window) and the choice you select (in upper window).

Dial  to select the Flow Channel which is installed for monitoring Total Satellite Flow.

Press  to enter your selection.



The TRIAC Voltage And Current Limits

The Information Windows will display the AMPS and VOLTS with a visual 7-second count for each Station.

NOTE: All Station mode switches and the pump mode switch on TRIAC modules should be set to the AUTO position before activating the next function.

CONFIG.

SET

TRI.AMPS (Monitoring TRIAC Current)

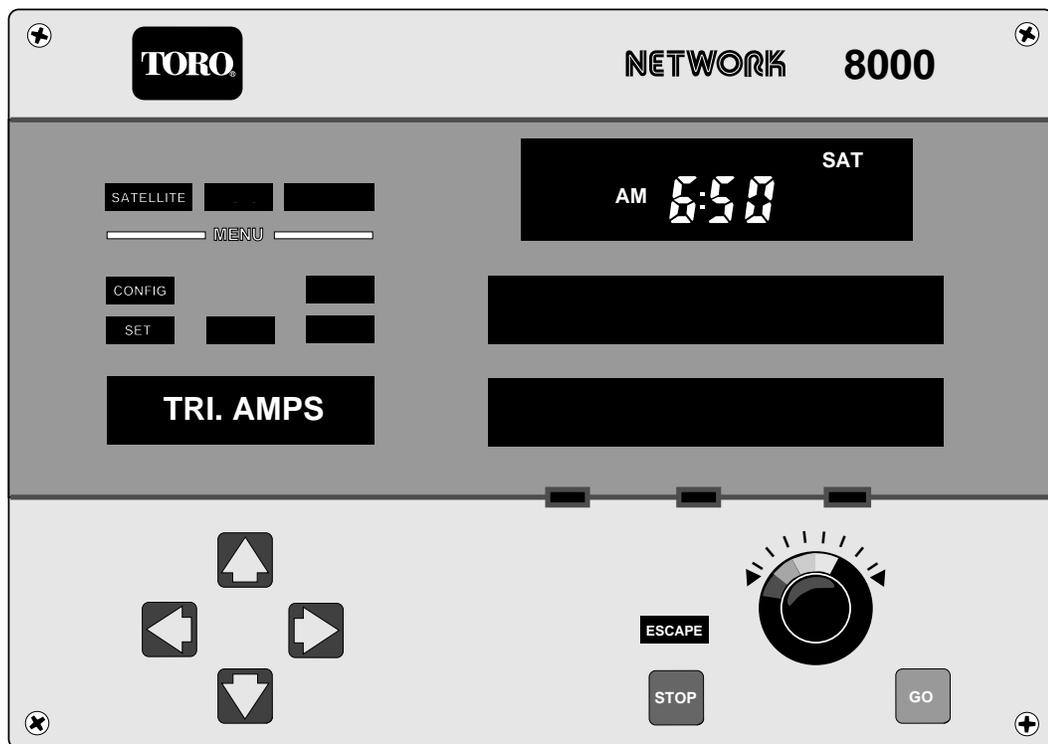
OPTIONS: [STA. AMPS] [STA. VOLTS]

This function does not require you to set anything. The Satellite will step through each station and turn it on (begins watering) and it will record the amperage and the voltage level for each station. This information is particularly necessary if your Satellites will be controlled by the TORO Network 8000 Central. This also allows you to be sure that each station is functioning by noting an amperage greater than 0.0 for that station. When this function terminates, the satellite will beep then clear the Information Windows. You do not have to press the GO KEY.

Procedure to set function:

Press  – this locks in your function while the INFORMATION WINDOWS display the STA., AMPS, and VOLTS (in lower window) and their values (in upper window).

Dial  until TRI.AMPS appears in Function Window.



PART 2 Setting-Up Watering Programs ■

Each Satellite provides you with 12 separate programs that are known by their program number (i.e., program #1 – #12). You may choose which Stations (of the 32 possible stations) will be activated when a specific program begins. With each program number you may set up to 12 separate Start Times. A single watering time is set for each program so that at each Start Time, during the day, those stations will water for the same period of time. Each program is associated with an Active Day or Days. This is the Day during the cycle (6, 7, 12, or 14 days, or monthly, depending on how you configured it) that watering will take place. From 0 to 3 Repeats may also be set for the program. A Repeat will cause all Stations, associated with that program, to water one additional time in sequence immediately after it has finished with its regular watering. This will happen for each Start Time during each Active Day and will water for the same duration.

When controlled by the CENTRAL, repeats divide total watering time into cycles, providing time between irrigation cycles and thereby increasing the infiltration rate of the turf. In SATELLITE mode, repeats increase watering times and could be used, for example, in hotter weather or periods without any rain. By setting a Repeat for a program, you do not have to re-program Start Times or Watering Times (i.e., durations) and you can “turn off” the Repeats just as easily.

And finally, you may make a Global Percent adjustment to watering times. Normally the Global Percentage is 100% meaning that a watering time of 60 minutes is actually 60 minutes. If the Global Percentage is set at 50% then the actual watering time would become 30 minutes. If set at 200% then actual time becomes 2 hours. This is highly useful for temporarily lengthening the watering times during a drought and temporarily shortening them during a heavy rain.

Under WATER / SET, there are several functions that allow you to set more than one thing at a time. The three lights under the Information Windows (lower window) indicates which function is being affected by the Master Control Knob. You may toggle left and right using the Left and Right Arrow keys to make active the one that you wish. If one of these lights will not light, it indicates that there is nothing there for you to modify.

Setting Watering Programs

Follow this procedure to set each function in the WATER SET Menu:

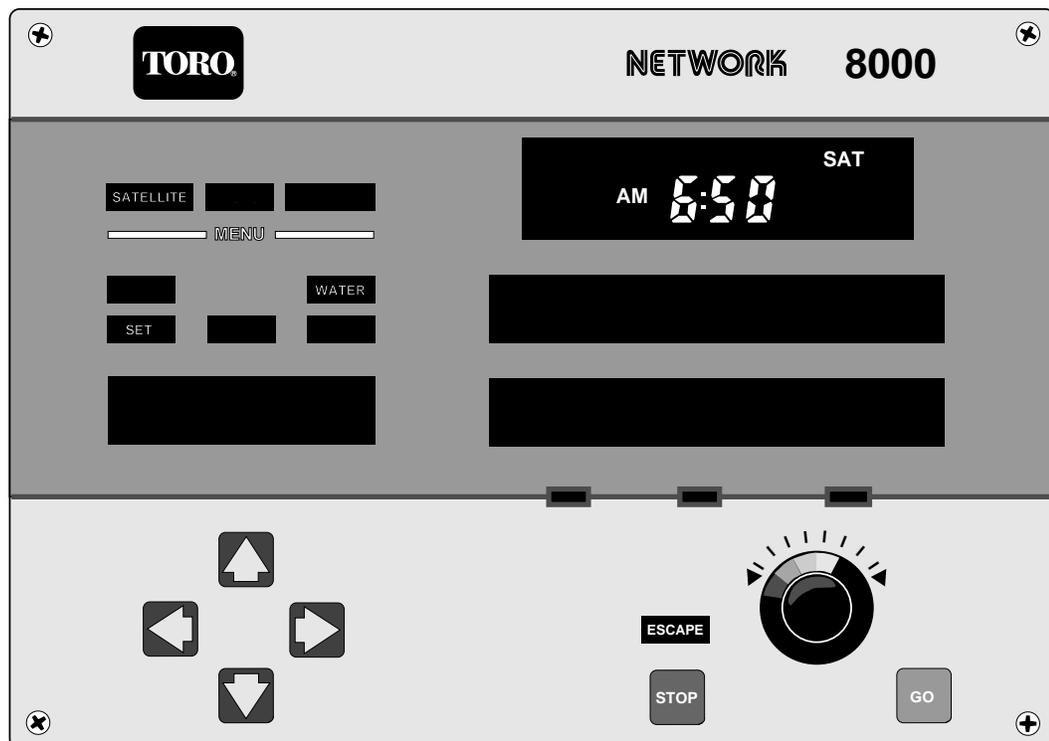
Press  – this extinguishes the AUTO legend and illuminates the WATER legend.

Press  – this illuminates the REVIEW legend.

Press  – the REVIEW legend is extinguished and the SET legend is illuminated.

Press  – the FUNCTION Display Window displays the first function in the Menu. (PROGRAM is the first function in the WATER SET Menu.)

Press  – OPTIONS:



Assigning Program, Station, and Watering Times

WATER

SET

PROGRAM (Program, Station and Watering Time Assignments)

OPTIONS: PROG., STA., W-TIME

Select a PROGRAM number (1–12). Next select a STATION number (1–32). Then select the Watering TIME (duration; 0.00–4.15) for the station. You may then select more Station numbers and Watering TIMES. When you have identified all the Stations that you want for this program, select a new PROGRAM number and repeat the above for each program that you wish. Depressing GO enters the settings once you have finished.

Procedure to set function:

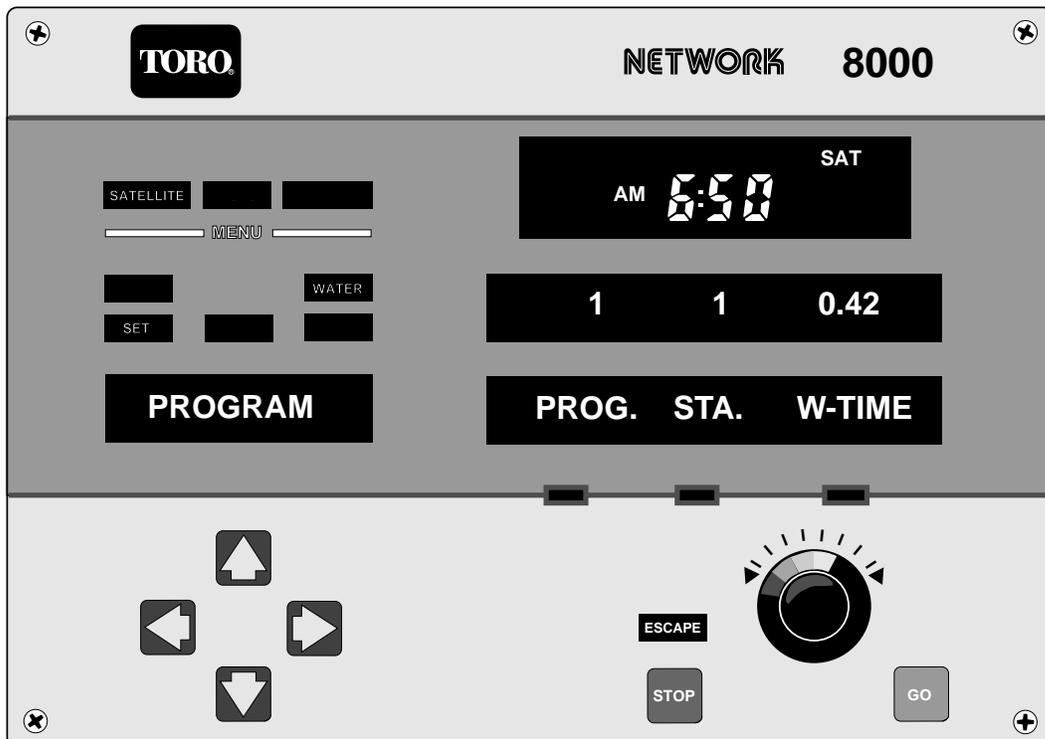
Since PROGRAM is the first function in the WATER SET Menu, it's not necessary to dial the MASTER CONTROL KNOB.

Press  – this locks in the selected function. The INFORMATION WINDOWS are displayed with the options PROGRAM, STATION, and Watering TIME (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between options.

Dial  to select your choice for each option.

Press  – this enters your selection.



Assigning Active Days

WATER

SET

ACT DAY

OPTIONS: PROG. DAY

Select a PROGRAM number. You may then move through the active DAY number and turn it ON or OFF by pressing the Down Arrow (OFF) or the Up Arrow (ON). You can make any PROGRAM activate for any or all DAYS during the cycle.

Procedure to set function:

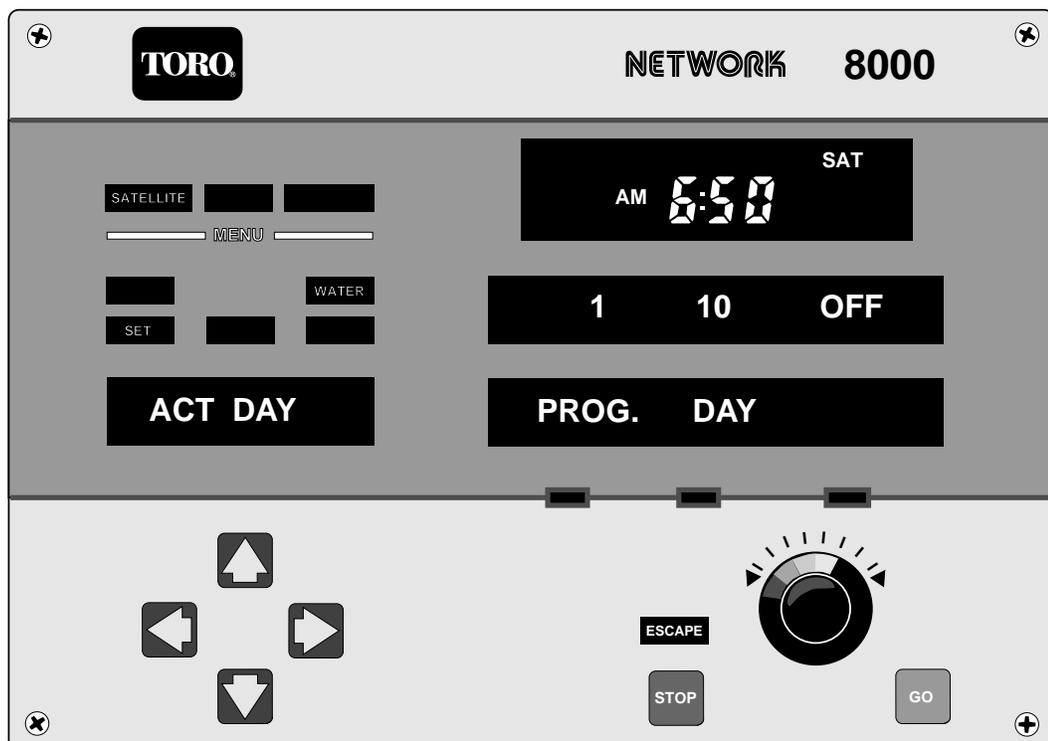
Dial  until ACT.DAY appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options Program and Day (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Assigning Start Times

WATER

SET

START TM. (Assigning start times)

OPTIONS: PROG., START, TIME

Select a PROGRAM number. Then select which START time this will be. (You may have from 1 to 8 START times during an active day.) Then select the actual TIME (OFF, or 12:00A–11:59P). If there is a Preprogrammed syringe associated with a given program and start time, then an 'S' will appear next to the TIME.

Procedure to set function:

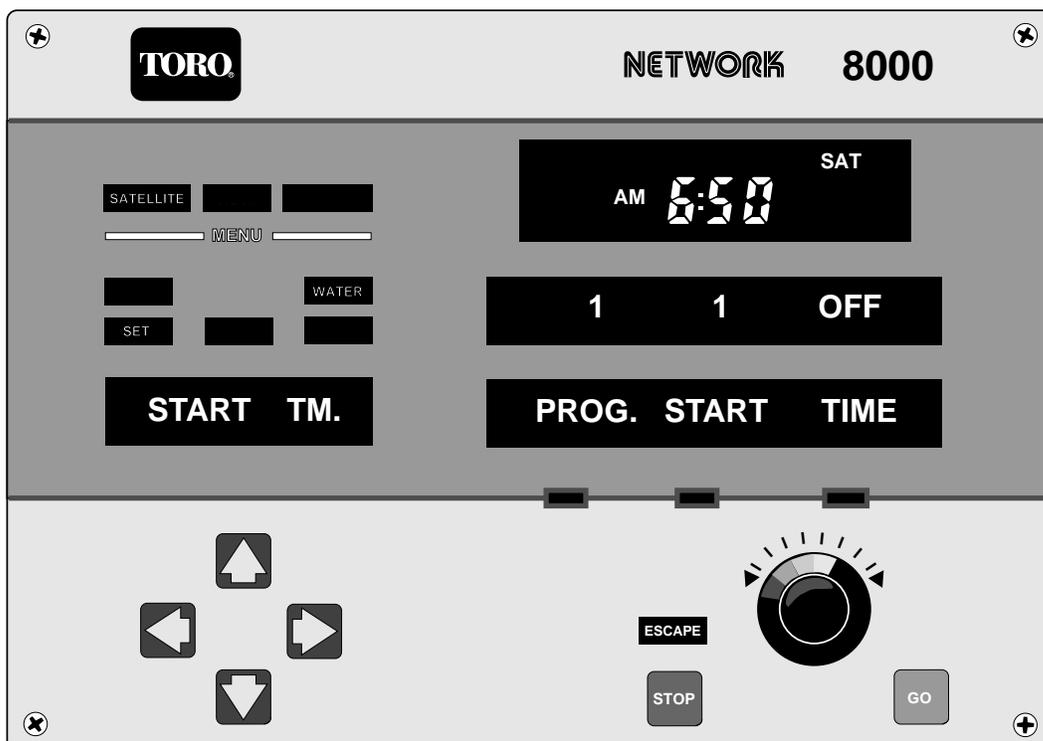
Dial  until START TM. appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options Program, Start, and Time (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Assigning Syringe Program Start Times

WATER

SET

P.P.SYR. (Assigning syringe programs and start times)

OPTIONS: PROG., START, SYRTM

A SYRINGE is a short watering period (1 to 30 minutes) that may be used to lower the temperature of the turf, wash dew from the turf, or water in fertilizer. Select a PROGRAM number and then select which of the eight (8) START times you wish to use as a SYRINGE. Next, set the SYRINGE TIME (1 to 30 minutes). During an Active Day, this PROGRAM will now have a uniform (shorter) watering time for each Station at this START time.

Procedure to set function:

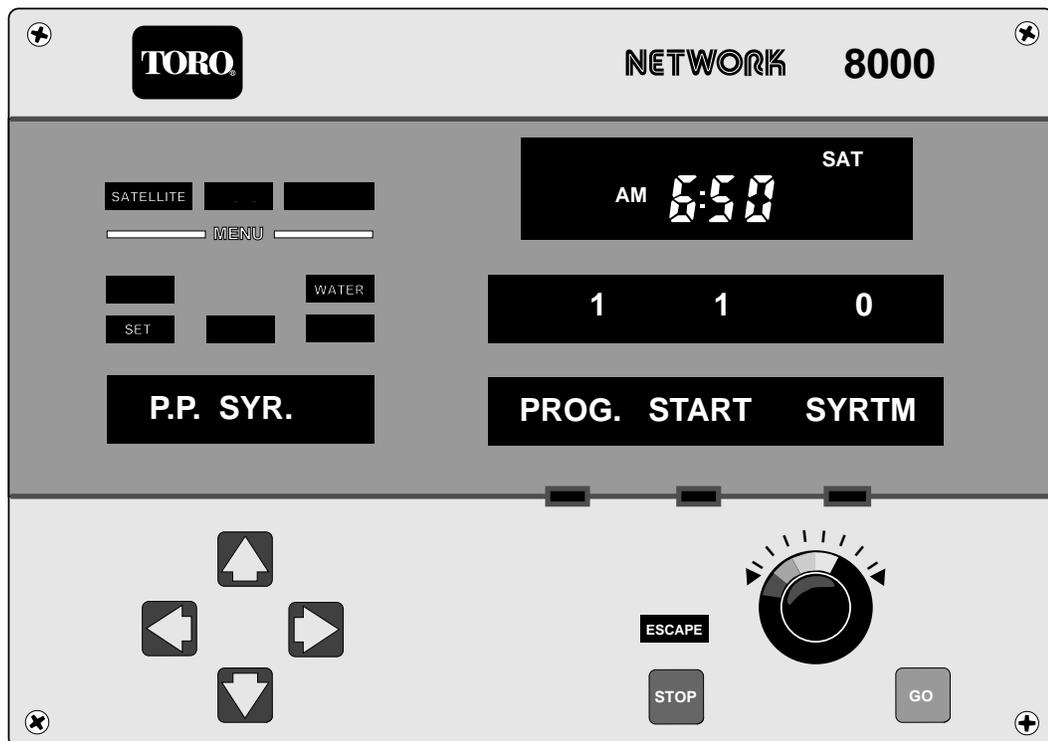
Dial  until P.P.SYR. appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options Program, Start, and Syringe Time (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between each of the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Assigning Repeats to Selected Programs

WATER

SET

REPEATS (Setting the number of repeats for selected programs)

OPTIONS: PROG., REPEATS

First select the PROGram number that you want repeated. Then, under REPEATS set a number from 0–3. One REPEAT means that a program will run two (2) times (i.e., it will run once and then REPEAT.)

Procedure to set function:

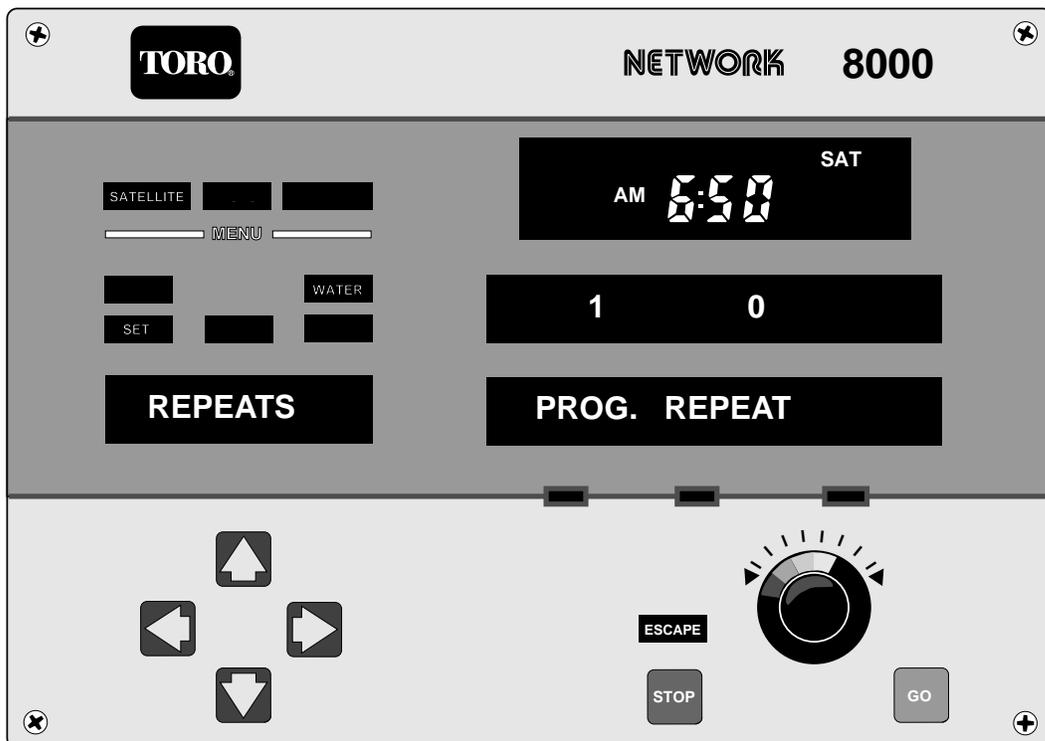
Dial  until REPEATS appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options Program and Repeats (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between each option.

Dial  to select a choice for each option.

Press  to enter your selection.



Assigning Soak Times

WATER

SET

SOAK

OPTIONS: PROG., TIME

This function allows you to select a program number and to specify a desired soak time (soak time for those stations within a program having “Station Repeats” assigned). The left and right arrows toggle between the Program and the Time (in lower window). The Master Control Knob changes the program number and the amount of time (in upper window).

Procedure to set function:

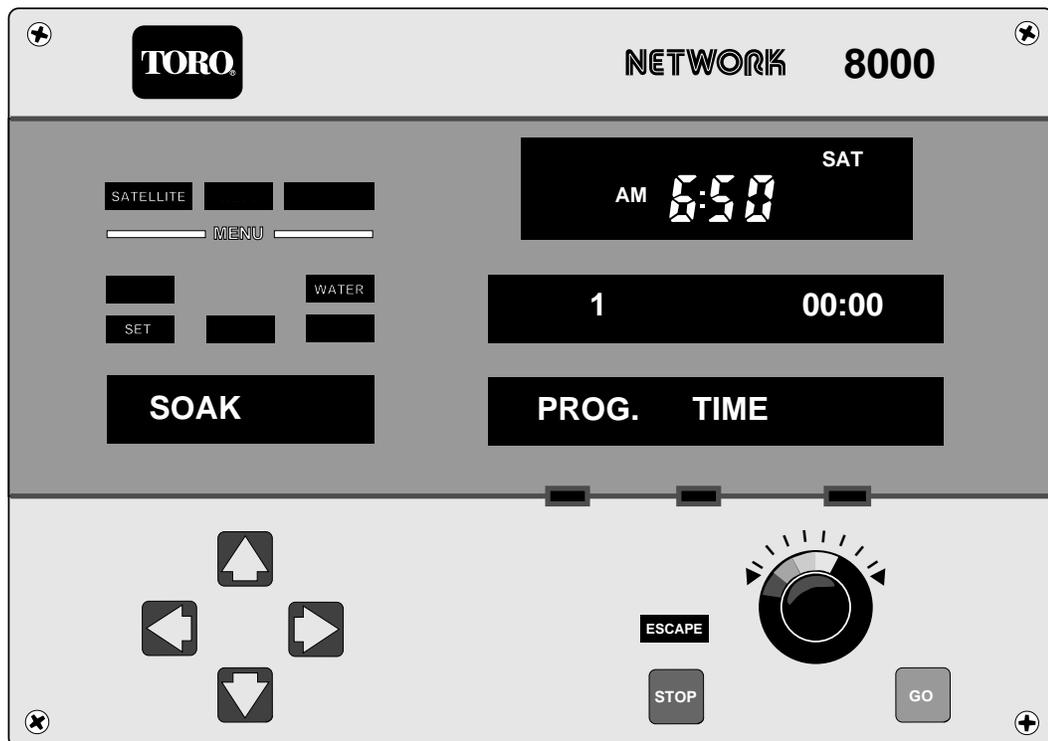
Dial  until SOAK appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options PROGRAM and TIME (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Adjusting Station Percentages

WATER

SET

STA.ADJ. (Percentage adjust by station)

OPTIONS: PGM., STA., PCNT.

The “STATION ADJUST” provides you with the capability to set the percentage (1-900%) for adjustment of individual stations. You enter the PGM (Program numbers), the STA. (stations), and the PCNT. (percentages) by toggling the left/right arrows and use the Master Control Knob to set the program and station numbers (in upper window). The percentages are up/down loadable to/from Central.

Procedure to set function:

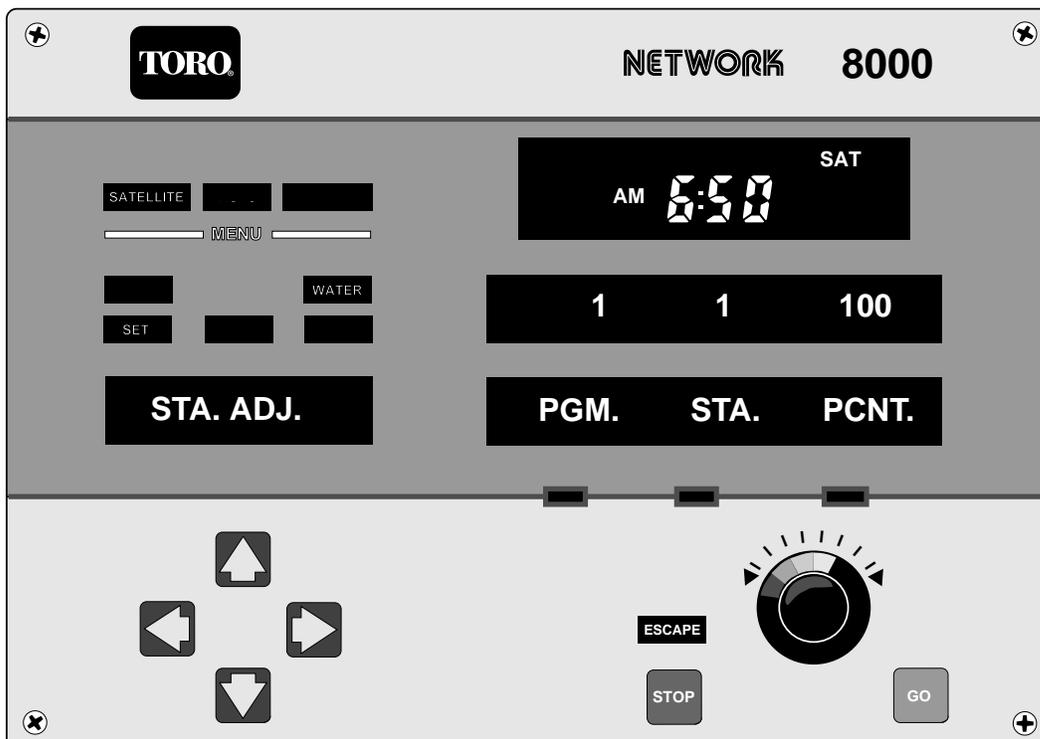
Dial  until STA.ADJ. appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options Program, Station, and Percentage (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Assigning Individual Station Repeats

WATER

SET

STA.RPT. (Individual station repeats)

OPTIONS: STA., REPEATS

This function provides you with the capability to program station repeats (0–3) within a program. The repeats are downloadable from Central. The individual station repeats automatically divide up and allocate the specified run time amongst the repeats to retain the total specified run time. Stations which are assigned repeats will run their first cycle in station number order and then run subsequent cycles at the earliest time possible (after intervening stations complete their respective cycle). This satisfies the station soak time associated with the irrigation program being run.

Procedure to set function:

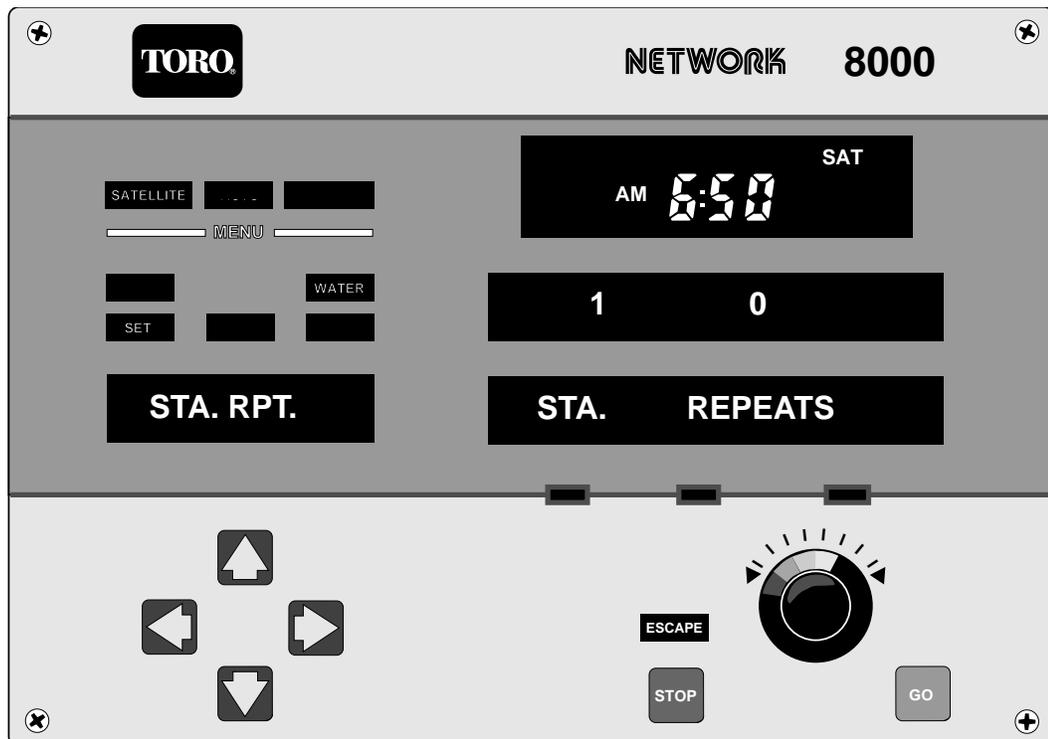
Dial  until STA.RPT. appears in the Function Display Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options STATION and RePeaTs (in lower window) and the choices you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.



Adjusting the Global (All 32 Stations) Watering Time Percentage

WATER

SET

GBL.ADJ. (Globally adjust all 32 stations at the same time)

OPTIONS:

This function allows you to set a single value so there are no options to toggle through. With the Master Control Knob, you can GloBaLly ADJust (i.e., “adjust for all 32 Stations”) the programmed watering times. This does not affect the Start Times, only the duration of watering. You may choose a number from 2–900% of programmed watering time. The percentage is UP/DN loadable to/from the Central.

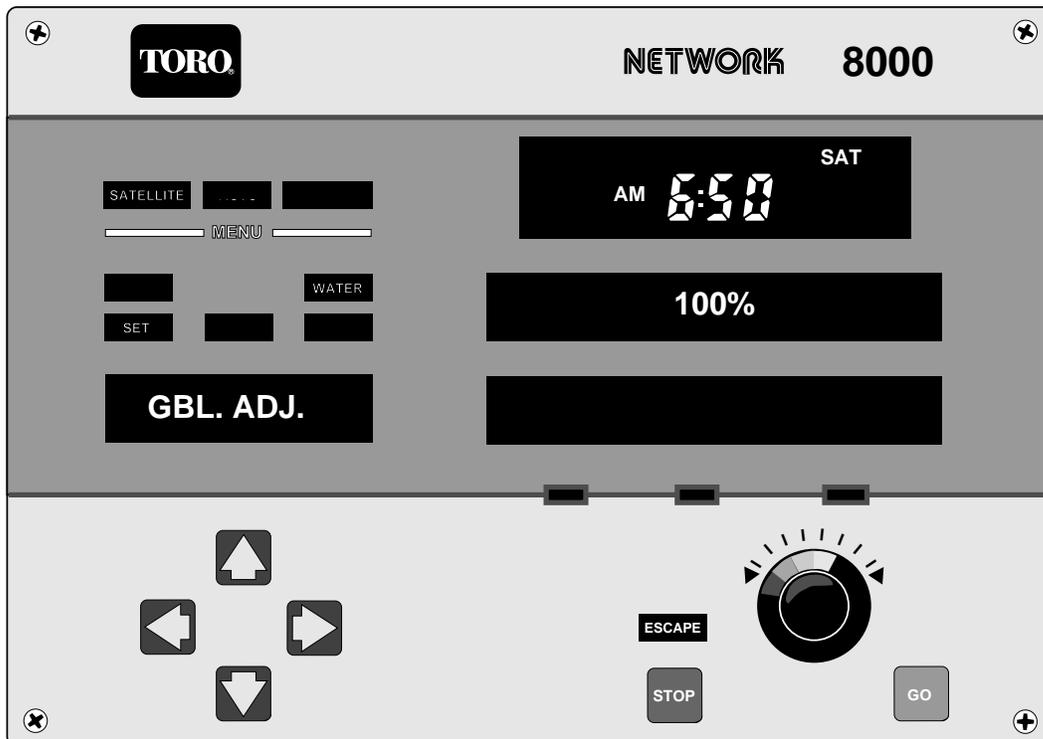
Procedure to set function:

Dial  until GBL.ADJ. appears in the Function Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with no options (in lower window) and the choice you select for the watering time percentage value (in upper window).

Dial  to select a desired setting.

Press  to enter your selected value.



Setting the Time and Day

WATER

SET

CLOCK (Set the time and day)

OPTIONS: TIME, WKDAY, DAY

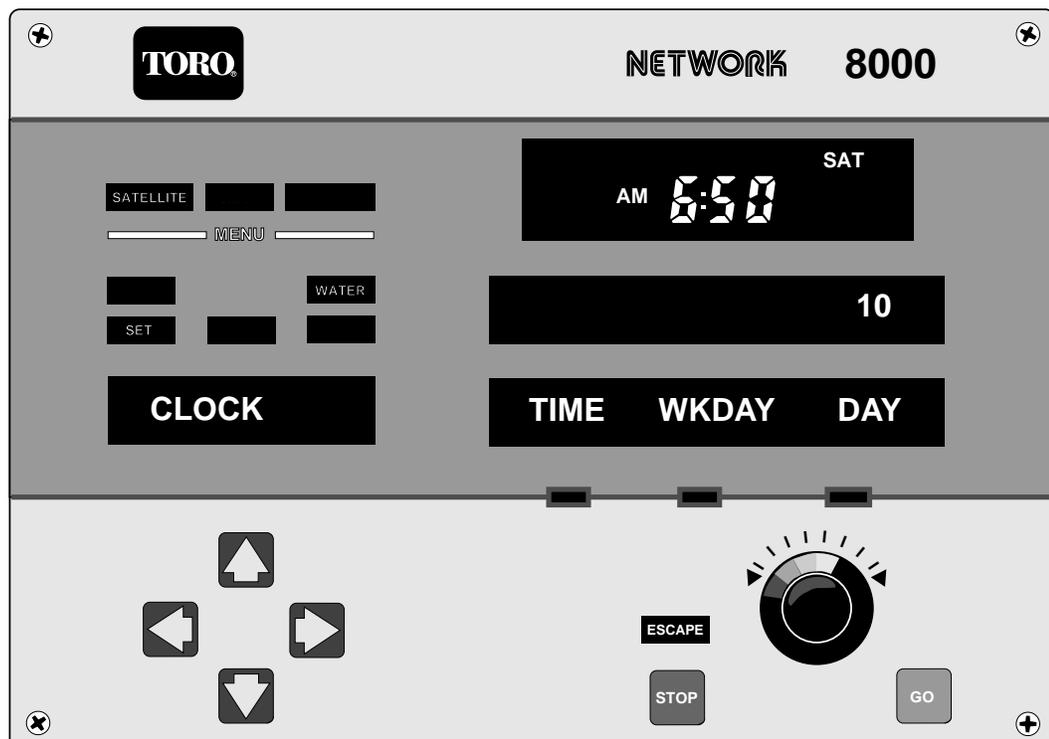
By turning the Master Control Knob, you can set the actual TIME and the current WeeKDAY as displayed in the Clock Window. This function also sets the DAY number of the current watering cycle (i.e., 1st, 2nd, 3rd etc.)

Procedure to set function:

Dial  until CLOCK appears in the Function Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed (in lower window) and your choice of selection for each (in upper window).

Press  to enter your selection.



Setting the Calendar

WATER

SET

CALENDAR (Set the day, month, and year)

OPTIONS: MONTH, DAY, YEAR

Like setting the clock, you may set the MONTH, DAY, and YEAR on the Satellite by selecting MONTH and adjusting it with the Master Control Knob and then proceeding to DAY and YEAR. Remember that pressing GO will cause the Satellite to accept your entry and that pressing STOP will cause the Satellite to maintain its Previous setting.

Procedure to set function:

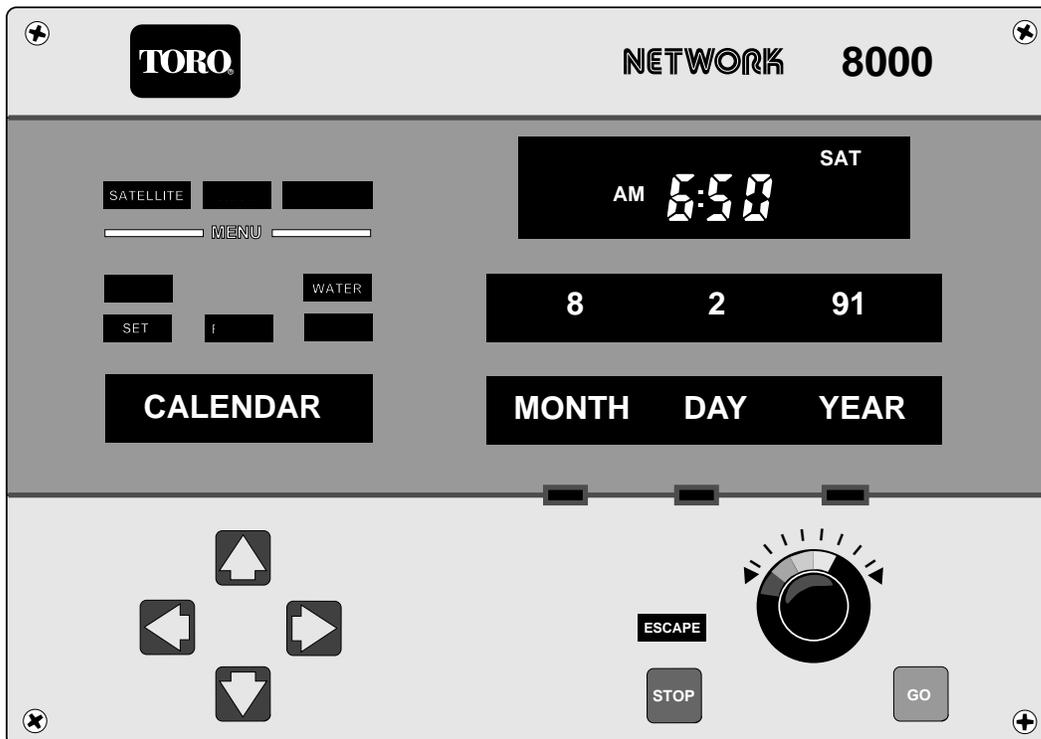
Dial  until CALENDAR appears in the Function Window.

Press  – this locks in the function. The INFORMATION WINDOWS are displayed with the options MONTH, DAY, and YEAR (in lower window) and the choices you select for each (in upper window).

Press  and  to select Month, Day or Year.

Dial  to set Month, Day or Year number.

Press  to enter your selection.



PART 3 Reviewing Satellite Configuration

Introduction

This set of functions allows you to look at all of the settings in the CONFIG menu, along with some other settings which are not part of the CONFIG set. These settings are stored in the Satellite's memory, and represent the instructions and assignments the satellite will automatically follow. The Review process allows you to examine each function without accidentally changing something. You can't change anything in this mode – it is strictly a Status mode.

The CONFIG assignment and Review menus are shown below.

CONFIG (Main Menu)

SET (Sub-Menu)	REVIEW (Sub-Menu)
12/24 HR.	SAT. ADDR.
DAY CHNG.	12/24 HR.
DAY S/CYC.	DAY CHNG.
PROG. LMT.	DAYS/CYC.
METRIC	PROG. LMT.
TRI. AMPS	METRIC
CENT. START	TRI. AMPS
STA. DLY.	REV. CODE
FLOW STD.	RF TEST
	CAL. AMPS
	CAL. VOLTS
	LINK MON.

To review each of the CONFIGuration-Review menu items use the following procedure:

Press  – this extinguishes the AUTO legend and illuminates the WATER legend.

Press  – this extinguishes the WATER legend and illuminates the CONFIG legend.

Press  – this illuminates the REVIEW legend.

Press  – the REVIEW legend is extinguished and the SET legend is illuminated.

Press  – the FUNCTION Display Window displays the first function in the Menu. (12/24 Hr. is the first function in the CONFIG SET menu.)

Satellite Address Status

CONFIG

REVIEW

SAT ADDR (Satellite Address)

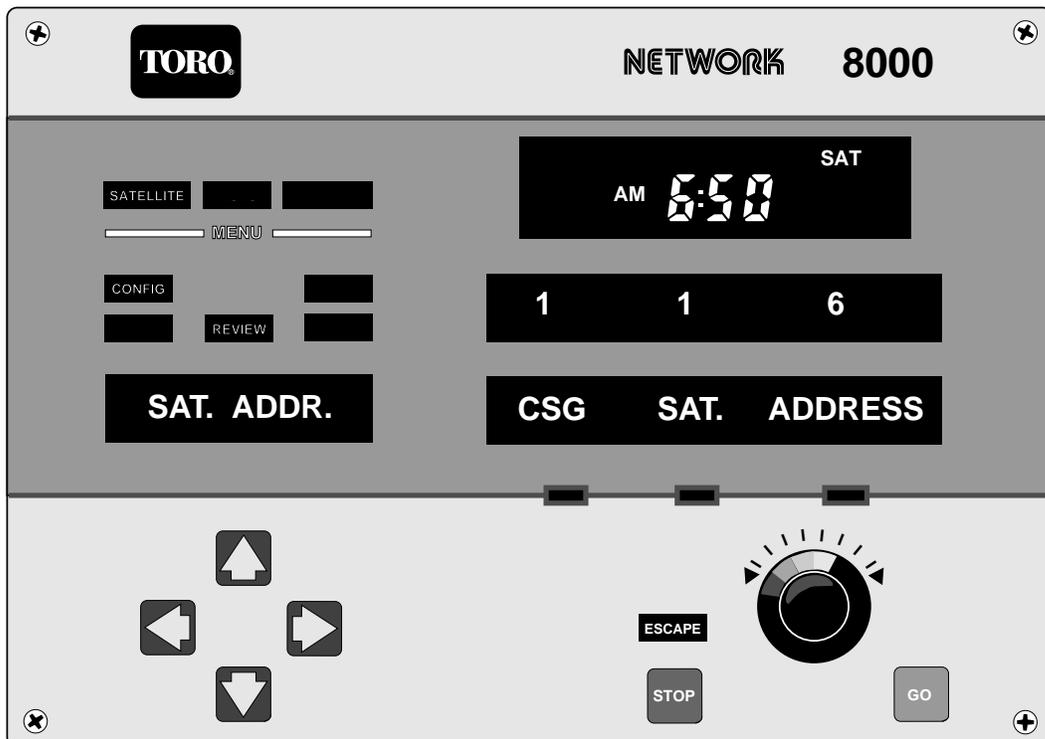
This tells you what address this satellite has been assigned when the system was installed (or later modified). Each Satellite has a unique address to allow Central to communicate with it. (See Page IV). This display shows the Satellite (CSG and SAT.) Address as selected on the “Satellite Address Switches” (DIP switches behind the front panel).

Procedure to review function:

The Satellite Address is the first function on the Menu. You don't need to use the dial.

Press  – this locks your function while the INFORMATION WINDOWS display the data you wish to Review.

Press  to leave this review operation, and return to the start of the menu.



12 or 24 Hour Timekeeping

CONFIG

REVIEW

12/24 HR. (Tells you if Timekeeping is 12 or 24 HOUR MODE)

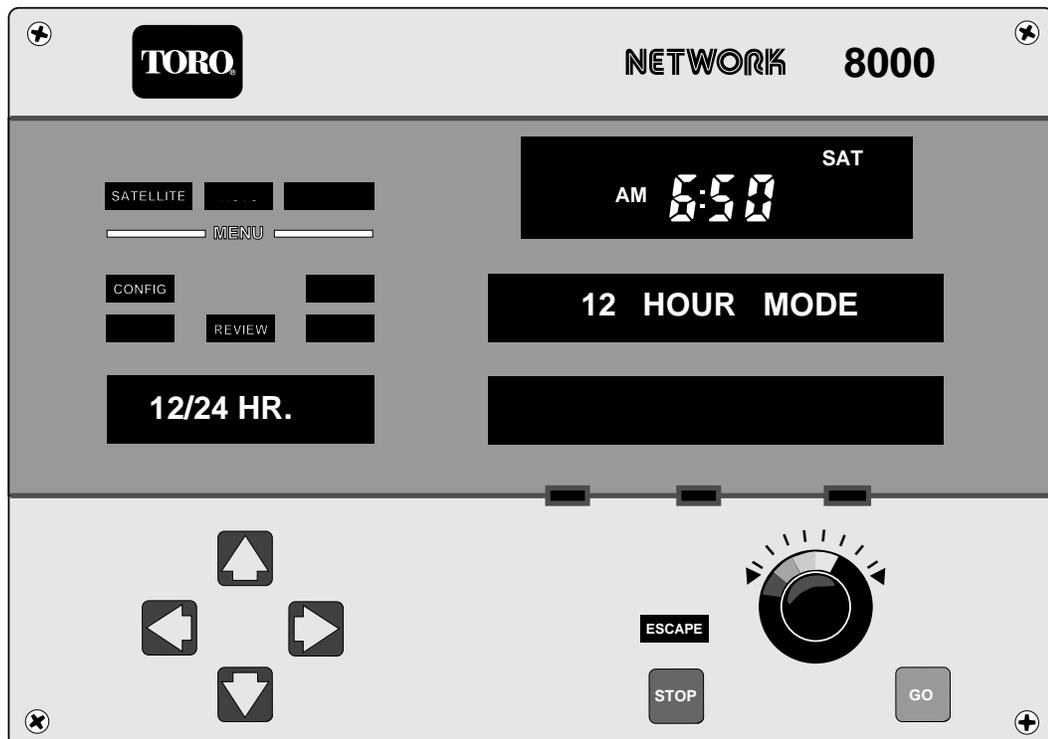
You may choose how you wish the Satellite to track time; using either a 12-hour clock listing AM and PM,, or a 24-hour clock where 1:00 PM becomes 13:00.

Procedure to review function:

Dial  to select the function to be reviewed.

Press  – the INFORMATION WINDOWS display the data you wish to review.

Press  to leave this review operation and return to the start of the menu.



Defining When It Is Time To Start A New Day Change

CONFIG

REVIEW

DAY CHNG. (Time to start a new day.)

OPTIONS: DAY CHANGE TIME

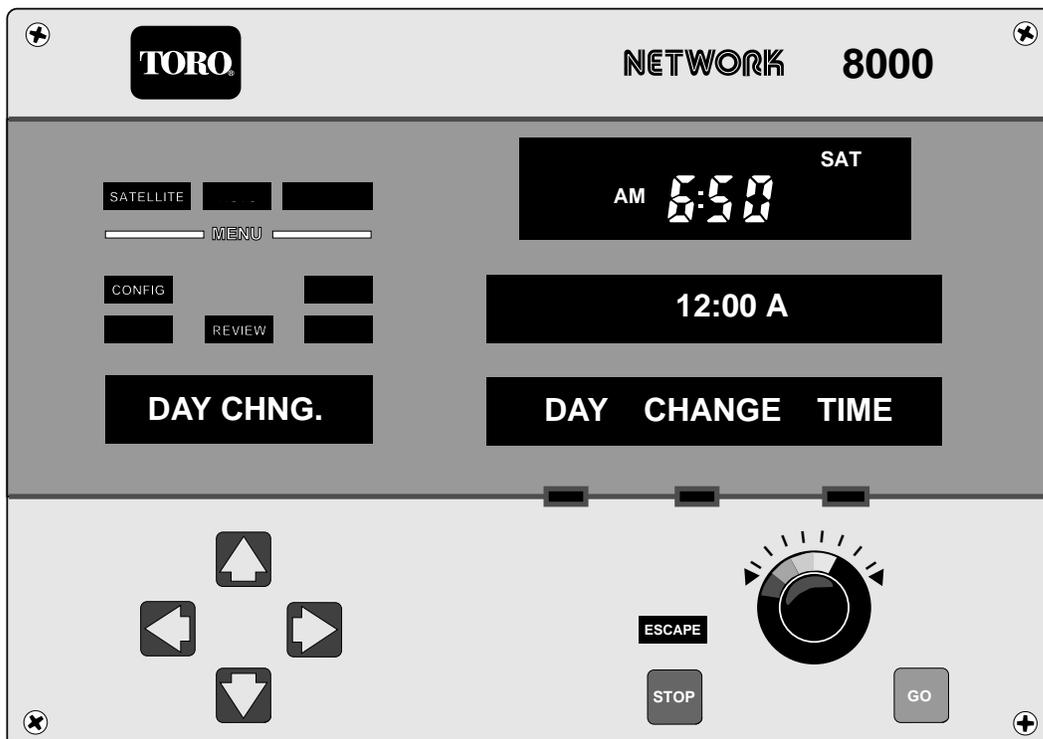
A specified time must be set for the Satellite to know what time during the day should be used to advance the CURRENT CYCLE to the next day. The two most common settings would be midnight or 6:00 AM. You may however, choose any time you like for stand-alone operation. The CENTRAL (in remote control mode) will use either midnight or noon.

Procedure to review function:

Dial  until DAY CHNG. appears in the Function Display Window.

Press  – the INFORMATION WINDOWS display the data you wish to review.

Press  to leave this review operation and return to the start of the menu.



Establishing The Number Of Days In A Watering Cycle

CONFIG

REVIEW

DAYS/CYC (Displays cycle length)

OPTIONS: [DAY] [CYCLE]

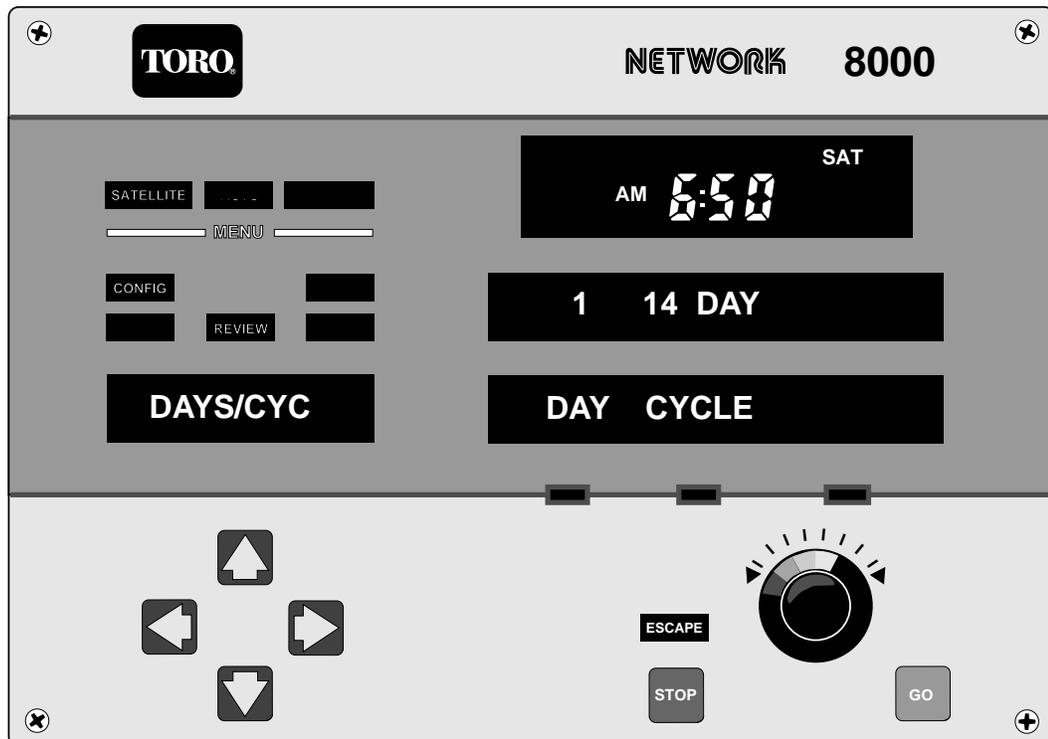
You set the desired number of days (14-day, 12-day, 7-day, 6-day, MONTHLY) a CYCLE is to consist of. Then you choose which DAY (1–14) of that cycle is today. 14-day and 7-day are the most common settings for cycle length. If, however, you wish to water only every third day, you would want to select a 6- or 12-day cycle and your cycle will repeat every third day regardless of the calendar. Under CENTRAL Station control, 14-day cycles will be standard.

Procedure to review function:

Dial  until DAYS/CYC. appears in the Function Display Window.

Press  – the INFORMATION WINDOWS display the data you wish to review.

Press  to leave this review operation and return to the start of the menu.



Establishing the Maximum Number of Simultaneous Programs

CONFIG

REVIEW

PROG.LMT. (Display the number of simultaneous programs)

OPTIONS: PROGRAM LIMIT

This function is for setting the number of programs that may run at one time. There are 12 separate programs per Satellite, with a maximum of six (6) allowed to run simultaneously. You, the operator, specify the number of programs (1–6) to run simultaneously or it can be downloaded from the Central.

Procedure to review function:

Dial  until PROG. LMT. appears in the Function Display Window.

Press  – the INFORMATION WINDOWS display the data you wish to review.

Press  to leave this review operation and return to the start of the menu.



PART 3 Reviewing Satellite Configurations (Condensed) ■

Now that you have seen how the review process works, we will continue with a more condensed format, to make it quicker to find the function you wish to review.

The Number Of Simultaneous Programs ■

CONFIG

REVIEW

PROG.LMT. (Display the number of simultaneous programs)

OPTIONS: PROGRAM LIMIT

This displays a number which is the PROGram LiMiT. This number will be between 1 and 6 and is the number of programs that may run at a time.

Procedure to review function:

Dial  PROG. LMT.

Press 

Metric or English Measuring Units ■

CONFIG

REVIEW

METRIC (Displays type of unit measure selected.)

OPTIONS

The upper INFORMATION WINDOW displays your selection of either ENGLISH or METRIC.

Procedure to review function:

Dial  METRIC

Press 

Display Triac Currents

CONFIG
REVIEW
TRI.AMPS (Displays TRIAC currents)
OPTIONS: STA., MEM.

The light under STA. (station) illuminates indicating that you may change the station number with the MASTER CONTROL KNOB. The value shown above MEM. is the amperage registered when you SET the TRI.AMPS under CONFIG/SET. A zero indicates no station was connected when you ran TRI.AMPS under CONFIG/SET.

Procedure to review function:

Dial  TRI.AMPS

Press 

Dial  STA. (station)

The Test Signal Mode

CONFIG
REVIEW
RF TEST (Displays the selected mode test signal)
OPTIONS:

This function provides you with the test signals from the Satellite modem. And it also provides you a selection of Modes (Mark, Space, and Square wave outputs or Off) which appear in the upper INFORMATION WINDOW one at a time and obtained with the Master Control Knob. Each selection output will remain for about 15 seconds after initiated and then will turn off automatically. These signals are to facilitate calibration of RF link/radio equipment at Satellite location.

Procedure to review function:

Dial  RF TEST

Press 

Dial  MODE

The Total Field Transformer Current ■

CONFIG

REVIEW

CAL.AMPS (Displays total field transformer current)

OPTIONS:

This function displays the current flowing through the field transformer circuit. This is normally 0.080 with no stations on. Each solenoid valve connected will increase this value by approximately 0.220 amps.

Procedure to review function:

Dial  CAL.AMPS

Press 

The Field Transformer Voltage ■

CONFIG

REVIEW

CAL.VOLT (Displays field transformer voltage)

OPTIONS:

This function displays the voltage output from the 200 VA field transformer. This value will increase slightly as the loading is increased. It will change with changes in line voltage.

Procedure to review function:

Dial  CAL.VOLT

Press 

The Communication Signals from Central ■

CONFIG

REVIEW

LINK MON. (Displays communication signals from Central)

OPTIONS:

This function displays messages sent from Central. It will display the CSG number, Satellite number, and Message Type.

Procedure to review function:

Dial  LINK MON.

Press 

PART 4 Reviewing Satellite Watering Programs

Water (Main Menu)

SET (Sub-Menu)	REVIEW (Sub-Menu)
PROGRAM	STATUS
ACT DAY	PROGRAM
START TM.	ACT DAY
P.P. SYR.	START TM.
REPEATS	P.P. SYR.
SOAK	REPEATS
STA. ADJ.	SOAK
STA. RPT.	STA. ADJ.
GBL. ADJ.	STA. RPT.
CLOCK	GBL. ADJ.
CALENDAR	CLOCK
	CALENDAR
	TOT.TIM.AS.
	T.TIMEGBL.
	VLV.COM.A.
	AMB.TEMP.
	PRESSURE
	SENSORS
	FLOWRATE
	SENSDISP.

Review Stations Currently Active

WATER

REVIEW

STATUS (Display current active stations and program)

OPTIONS:

The upper INFORMATION WINDOW lists what station is currently watering while the lower INFORMATION WINDOW lists the program number that is doing the watering. There are 3 different codes that may be displayed along with the program number. They are:

A- Adjusted (i.e., the actual watering time will be affected by any global percent change.)

N- Normal (i.e., actual watering time will be the same as what you entered. Global percent change has no effect.)

S- Syringe (i.e., this station is following a Syringe timing instead of the normal watering time.)

If the current watering job was initiated under WATER/RUN/MULT.MAN., then the lower INFORMATION WINDOW will say MULTI-MAN.

Procedure to review function:

Dial  STATUS

Press 

Dial  PROG (Program # = Shown in lower left window)

(Lower right window displays run time remaining for station(s) shown above.)

Review Watering Time for Selected Program

WATER

REVIEW

PROGRAM (Displays Watering Time for selected Program)

OPTIONS: PROG., STA., W-TIME

Select a PROGRAM number and then the STATION number. Scroll through the station numbers and the associated station watering times will be displayed on the right side.

Dial  PROG

Press 

Dial  PROG (Program #1)

Press  STA

Dial  STA (Station #)

Review Start Times for Selected Program

WATER

REVIEW

START TM (Review start times for any program)

OPTIONS: PROG., START, TIME

You may review the START TIMES for any program. You first select the PROGRAM number then the START number. You may scroll through the 1st eight (8) “Normal” starts (normal starts are for single day use and are entered only at the satellite) and then the display label changes to Day and you may continue to scroll through the “Extended” starts. Extended starts are created only at the Central and are attached to days of the cycle. This allows various combinations of active programs to be concatenated (linked together) for each of the (14) days of the watering cycle.

Procedure to review function:

Dial  START TM

Press  PROG

Dial  PROG (Program #1)

Press  START

Dial  START (Start Number)

Review Active Days

WATER
REVIEW
ACT DAY
OPTIONS: PROG. DAY

Select a PROGRAM number then scroll through the DAY number (the Cycle number of the day) to see if that program is ACTIVE (i.e., ON or OFF) or not. If the cycle is 14 days, then the Clock Window will even display what day of the week the selected DAY number applies to.

Procedure to review function:

Dial  ACT.DAY

Press 

Dial  PROG Number

Press  DAY

Dial  DAY Number

Syringe Programs

WATER
REVIEW
P.P. SYR. (Review syringe programs and start times)
OPTIONS: PROG., START, SYRTM

Select a PROGRAM number and then select which of the eight (8) START times you wish to view.

Procedure to review function:

Dial  P.P.SYR.

Press  PROG

Dial  PROG (Number)

Press  START

Dial  Start (Number)

Reviewing Program Repeats

WATER

REVIEW

REPEATS (Reviewing the number of repeats for selected programs)

OPTIONS: PROG., REPEATS

Procedure to review function:

Dial  REPEATS

Press 

Dial  PROG (Number)

Program Soak Time

WATER

REVIEW

SOAK (Program soak time)

OPTIONS: PROG., TIME

This function allows you to review the programmed station repeat soak time for each program number.

Procedure to review function:

Dial  SOAK

Press 

Dial  PROG (Number)

Station Percentage Adjustment

WATER

REVIEW

STA.ADJ. (Percentage adjust by station)

OPTIONS: PGM., STA., PCNT.

The “STATION ADJUST” provides you with the capability to view the percentage (1–900%) adjustment of individual stations. The percentages are up/down loadable to/from Central.

Procedure to review function:

Dial  STA.ADJ.

Press 

Dial  PGM (Program #)

Press 

Dial  STA. (Station #1)

Reviewing Individual Station Repeats

WATER

REVIEW

STA.RPT. (Individual station repeats)

OPTIONS: STA., REPEATS

This function allows you to review station repeats (0–3) within a program. The repeats are up/down loadable to/from Central.

Procedure to review function:

Dial  STA. RPT.

Press 

Dial  STA. (Station #)

Global Percentage Adjust Status ■

WATER

REVIEW

GBL.ADJ. (Review global adjustment of all 32 stations)

OPTIONS:

This function allows you to view a single value indicating the Percentage adjustment for all 32 satellites.

Procedure to review function:

Dial  GBL.ADJ.

Press 

Reviewing The Clock Status ■

WATER

REVIEW

CLOCK (Time and Day)

OPTIONS: TIME, WKDAY, DAY

In addition to what is normally visible in the clock window, you can also view the number of the current day in the cycle.

Procedure to review function:

Dial  CLOCK

Press 

Review The Calendar Status ■

WATER

REVIEW

CALENDAR (View the day, month and year)

OPTIONS: MONTH, DAY, YEAR

Procedure to review function:

Dial  CALENDAR

Press 

Review Total Program Watering Times ■

WATER
REVIEW

TOT.TM.AS. (Review total program watering times assigned)

OPTIONS: PROG., (VIEW, HRS., and MIN.)

This function allows you to review the total watering time for each PROGRAM. If the Global Adjust is 100%, the watering time you see here will be the *actual* watering time for each station.

Procedure to review function:

Dial  TOT.TM.AS.

Press 

Dial  PROG. (Number)

Review the Effect of Global Adjustment on Watering Time ■

WATER
REVIEW

T.TIMEGBL (The effect of Global Adjustments on Watering Times)

OPTIONS: PROG., STA., VIEW ACTUAL TOTAL PGM, W-TIME

This function displays the actual watering time as it is affected by Global Percentage adjustment. If you have set a Global Adjustment value other than 100%, you can scroll through the program numbers to see the effect on watering times. This saves you from having to make any calculations yourself.

Procedure to review function:

Dial  T.TIMEGBL

Press 

Dial  PROG. (Program Number)

Review Total Valve Current ■

WATER

REVIEW

VLV.COM.A

OPTIONS: (Valve), (Current)

Review total current (in amps) delivered to valves that are turned ON.

Procedure to review function:

Dial  VLV.COM.A

Press 

Display Ambient Temperature ■

WATER

REVIEW

AMB.TEMP.

This function displays the current ambient temperature.

Procedure to review function:

Dial  AMB.TEMP.

Press 

Display the Water Pressure ■

WATER

REVIEW

PRESSURE

This function displays the water pressure if an optional pressure sensor is installed.

Procedure to review function:

Dial  PRESSURE

Press 

Review Rain and Flow Sensor Status ■

WATER
REVIEW
SENSORS

OPTIONS: CHAN., (PREV), (NOW)

This function displays Rain and FLOW channel inputs. This function requires an optional interface PCB for the Satellite and sensors.

Procedure to review function:

Dial  SENSORS

Press 

Dial  CHAN (FLOW/RAIN)

Review Flow Sensor Channels ■

WATER
REVIEW
FLOWRATE

OPTIONS: (FLOW), (RAIN)

This function allows you to examine the FLOW derived from installed flow sensors. An optional interface PCB and sensors are required. The RAIN channel (Sensor) displays current RAIN as well as past HR Rain.

Procedure to review function:

Dial  FLOWRATE

Press 

Dial  CHAN (Flow or Rain)

Review Sensor Input PCB Status

WATER
REVIEW

SENS.DISP. (Sensor Input PCB status)

Each Sensor Input PCB has LED status (activity) indicators. These indicators turn on when the channel is active, and will turn on and off (blinking) when data states are changing.

Because these status indicators are not conveniently visible, this function allows you to tell which of the channel LED's are on (and which are off) without having to see them. The display shows 6 numbered channels. A 1 (one) above a channel number indicates that the LED for that channel is illuminated. A 0 (zero) above the number indicates that the LED is dark. Alternating 1's and 0's indicate changing data in the indicated channel.

Procedure to review function:

Dial  SENS.DISP.

Press 

Dial  CARD Select card 1 (normal) or card 2 to view channel status.

PART 5 Manual Watering

Should you decide that it is necessary to water outside the schedule you have entered, you may manually initiate an irrigation cycle. You may choose a program number and cause it to begin immediately regardless of whether or not today is an active watering day for this program. You also have the option to select specific stations and set a watering time. This will not affect the programmed time for the Station.

You may also select a program as a syringe. This will allow you to use an existing watering program and to replace the normal watering time with a syringe time (i.e., from 1 to 30 minutes.) You are also given the option of causing up to 6 Stations to water simultaneously through the MULTI-MANual function. This will not affect the programmed time for each Station. You may select up to 6 Stations and set a watering time that each will run. Only by pressing GO will any of these “manual” options initiate an irrigation cycle. You are of course provided with the option to cancel watering cycles.

To set each function in the WATER RUN this same procedure will be followed:

Press  – this extinguishes the AUTO legend and illuminates the WATER legend.

Press  – this illuminates the REVIEW legend.

Press  – this extinguishes the REVIEW legend and illuminates the RUN legend.

Press  – the FUNCTION Display Window displays the first function in the Menu. (PAUSE is the first function in the WATER RUN Menu.)

SET (Sub-Menu)

PAUSE
PROG. NO.
PROG. RPT.
STA. NO.
MULT. MAN.
SYRINGE
CANCEL
CAN ALL
TRAICS

PILL CHK.
CTRL. REQ.
STA.DSABL

Initiating Pause

WATER

RUN

PAUSE (Pause prior to start)

OPTIONS: PROG., TIME

This function allows you to select a Program number (1–12, All, MM, SS) and the amount of Time (in minutes). This provides capability at the Satellite to pause before execution of a manual start. After the run function selection, by pressing the “GO” button once does not start the function until a 15 second pause has timed out. During this 15 second pause you may dial adjust a longer pause (go to execute). By pressing the “GO” button a second time immediate starting begins. This function is particularly useful if the sprinkler about to be turned on is pointed at you or others that may wish to get out of the way. The Program and Time are toggled with the Left/Right arrows. The Master Control Knob is used to select the Program number and the amount of time.

Procedure to set this function:

Press  – this locks in the function. The Information Windows are displayed with the options PROGRAM and TIME (in lower window) and the choices you select (in upper window).

Press  and  – this allows you to toggle between the options.

Dial  to set the options.

Press  to enter your selection.

Run Program (Number) ■

WATER

RUN

PROG.NO. (Start a program with the GO key)

OPTIONS: PROG., MODE, INDX.

This function allows you to select a PROGRAM (including station repeats) that you have already created (under WATER/SET) and cause it to begin as soon as you press the GO key. You may choose which MODE you wish it to run under: NORMAL (i.e., for the actual watering time) or ADJUSTED (i.e., actual watering time multiplied by Global Adjust which you set under WATER/SET.)

Procedure to set function:

Dial  until PROG.NO. appears in the FUNCTION WINDOW.

Press  – this locks in the function. The Information Windows are displayed with the options PROGRAM, MODE, INDeX (in lower window) and the choices you select for each (in upper window). The Index Window may be used to review the station numbers in a program and to select the starting point (Station Index) at which to begin watering. Lower number stations (less than the index) will not be watered.

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.

Run Program With Repeat

WATER

RUN

PROG.RPT. (Manual run program with repeats)

OPTIONS: PROG., MODE, INDX.

This function provides you with additional Satellite menu selections which use the previous specified number of program repeats and station repeats to run (and repeat) your selected program. This section also allows “indexed” starting (at a station other than the first) and for repeating only those latter stations specified by “index” as the first station and including those stations higher in number.

Procedure to set function:

Dial  until PROG.RPT. appears in the function window.

Press  – this locks in the function. The Information Windows are displayed with the options PROGRAM, MODE, and INDeX (in lower window) and the choice you select for each (in upper window).

Press  and  to toggle between the options.

Dial  to select your choice for each option.

Press  to enter your selection.

Station Number

WATER

RUN

STA.NO. (Start a station with a GO key)

OPTIONS: STA., TIME

This function allows you to single out a particular STATION for watering. Select the STATION number you wish to run and then set the length of TIME you want it to run. Press GO and the Station will begin watering. This will not change the programmed run time of the Station.

Procedure to set function:

Dial  STA. NO.

Press  STA.

Press  and  TIME

Dial  to set the options.

Press  and the station will begin watering.

Multimanual

WATER

SET

MULT.MAN. (Start several stations simultaneously)

OPTIONS: STA., TIME

This function allows you to select up to 6 STATIONS to water simultaneously for the TIME that you select. Choose a Station number, press the Up Arrow key to select it. Pressing the Down Arrow key will deselect a Station (clear it from being one of the group selected). ON or OFF will be displayed next to the Station number and the far right of the upper Information Window will list a number telling you how many Stations you have selected. Repeat the selection process for each Station you wish to activate (up to 6). After selecting the group of Stations you wish to turn on, select the amount of TIME you wish to water, and begin the actual watering by pressing the GO key.

Procedure to set function:

Dial  MULT.MAN.

Press 

Dial  STATION number

Press 

Dial  next STA.

Press 

Press  TIME

Dial  TIME

Press  to Start.

Syringe

WATER

RUN

SYRINGE (Start a syringe program with the GO key)

OPTIONS: PROG., TIME

This function allows you to choose a PROGRAM and override the normal watering time by selecting a syringe TIME (up to 30 minutes.) Pressing GO will cause each Station in the PROGRAM to run for the TIME you have selected.

Procedure to set function:

Dial  SYRINGE

Press 

Press  and  to toggle between the options.

Dial  PROGRAM number

Dial  TIME

Dial  INDEX to select the beginning station for syringe sequence.

Press  to Start syringe program.

Cancel

WATER

RUN

CANCEL (Cancel a program with the GO key)

OPTIONS: MODE, PROG., STAT.

This function allows you to CANCEL any PROGram in one of three MODEs. The three MODEs are: CYCLE (i.e., cancel the selected program that is currently running), DAY (i.e., cancel all start times for the selected program for the rest of the current day) and PERM. (i.e., cancel all start times). After selecting the PROGram you wish to cancel and the MODE in which you wish it canceled, press the UP Arrow key to CANCEL. By pressing the Down Arrow key you un-CANCEL (reactivate) a cancelled program, even one that has been PERManently cancelled. Canceling a program permanently does not remove the settings from memory, it only prevents the Satellite from initiating the cancelled program. As usual, CANCELLing only goes into effect the moment you press the GO key.

Procedure to set function:

Dial  CANCEL

Press 

Dial  DAY-CYCLE-PERM.

Press 

Dial  to select program number (1–16 plus multi-single)

Press  to lock cancel instruction. Press  to remove cancel.

(The *Cancel* status is shown above the STAT. Window).

Press  – immediate CANCEL is in effect.

Station Disable

This function disables the selected Station by turning Off the signal to the Triac that controls its associated sprinkler valve. The program runs normally, but when it sends a signal to turn on a disabled station, the Triac does not respond, and no water is actually delivered by the disabled Station. If the Up-arrow is pressed, a YES appears in the window above the word DISABLE, indicating the station is disabled. Pressing the Down-arrow causes a NO to appear in the window, indicating the Station has been Enabled again.

Procedure to set function:

Dial  STA.DSABL

Press 

Dial  STA. (Station Number)

Press  to Disable Station Press  to Reactivate Station

Press  to enter the Disable command.

Emergency

When watering is in process, pressing the  button “pauses all watering”.

It is intended to allow quick intervention to prevent someone from getting wet. The clock is put in the Pause All Immediate Mode for one minute. The user may dial (select) Cancel, cancel or extend the pause.

To extend the pause:

Press  twice to TIME.

Dial  to change pause time.

Cancel All

WATER

RUN

CAN ALL (Cancel all programs)

OPTIONS: MODE

This function allows you to CANCEL ALL programs. As in CANCEL, you may select the MODE you wish. Cancel ALL programs for the current watering CYCLE; Cancel All programs for the rest of the DAY; Cancel All programs PERManently; or to CLEAR all CANCELs from memory. If you Cancel All programs PERManently, you may reinstate them individually by uncanceled (reactivating) them under WATER/RUN/CANCEL.

Procedure to set function:

Dial  CAN ALL

Press  to select MODE-DAY, CYCLE, or PERmanent

Press  ALL stations are now Cancelled.

Diagnostics

These last two functions under WATER/RUN are used for Satellite diagnostics.

Triacs

WATER

RUN

TRIACS (Comparing the memory stored and actual triac currents)

OPTIONS: STA., AMPS, MEM.

Triacs allow radio manual sequential turn-on of station triacs for test or other user needs.

As you select a STATION, that STATION is turned on and the current (AMPS) is displayed. Also the current that was MEMorized when you ran the CONFIG/SET/TRI. AMPS function is displayed along side the current reading. A discrepancy between the MEMorized value and the present value will indicate that the STATION, or the link to the STATION, may be in need of maintenance.

Procedure to set function:

Dial  TRIACS

Press 

Dial  Desired STATION

Compare current values.

Pill Check

WATER

RUN

PILL CHK. (Check individual station output circuit)

OPTIONS: PREVIOUS, NEXT

This function will turn each station on for about 10 seconds as it CHEcKs each PILL (Triac output circuit) for a short to ground due to lightning. When a station's PILL is declared good, the station number and the word "OK" is displayed above PREVIOUS. The NEXT station then begins its CHEcK. Remember that this function will turn on each station momentarily and therefore turn the sprinklers on also. (When the PILL CHK. is completed the words "TEST FINISHED" will appear in upper Information Window.)

Procedure to set function:

Dial  PILL CHECK

Press  wait for OK for each PILL

Central Control Request

WATER
RUN

CTRL.REQ. (Control request)

OPTIONS: CODE

This function allows you to initiate certain Central controlled programs from the Satellite. The programs run exactly as they would if they were initiated by *Central*. In order for this function to work, the programs must have been set-up and assigned a control code number on the *Satellite Control Code* screen at *Central*. Once that has been done you can send the proper control code from the Satellite and Central will respond to your request. See the replica screen below and refer to Page 5-5 in the Central Programming Manual (Form No. 367-0086) for more details.

Procedure to set this function:

Dial  CTRL.REQ

Press 

Dial  to select the proper Control Code.

Press  to initiate the *Central Program*.

SATELLITE CONTROL CODE ASSIGNMENT

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Op-Sel. Code	Ref. Code	Function	Op-Sel. Code	Ref. Code	Function
1	H	Multi Man.Gp# 1	16	C	Message Acknowledge
2	I	Multi Man.Gp# 2	17	D	Cancel- CSG
3	J	Multi Man.Gp# 3	18		
4	K	Multi Man.Gp# 4	19		
5	-		20		
6			21		
7			22		
8			23		
9	P	Multi Man.MstrGp# 1	24		
10	Q	Multi Man.MstrGp# 2	25		
11	R	Multi Man.MstrGp# 3	26		
12	S	Multi Man.MstrGp# 4	27		
13	T	Multi Man.MstrGp# 5	28		
14			29		
15	G	Down-Load to Sat.	30		

HELP

STATUS

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