

Table of Contents

Dip Switches	page 1
Dip Switch Settings	page 2
Installation Procedures	page 3
Choosing Stations	page 3
Programming Procedures	page 4
Settings and Operations	page 1
Mini-Mist Misting	page 4
Figures	page 5
Mini-Mist Irrigation	page 6
Clock	page 7
On/Off/Auto	page 7
Night Misting	page 7

DIP SWITCHES

Dip Switches, located on the rear panel of the **MINI-MIST** are numbered from 1-12. Each has an ON and OFF setting (up or down).

Each switch controls a setting for the MINI-MIST system. Refer to page 2 of this manual for correct settings.

If both stations are to be used for MISTING, all switches will be in the OFF (down) position.

Irrigation Repetitions - By moving dip switches, the user defines the number of times (up to 4) the irrigation cycle will occur.

Irrigation Repetitions Off Time - By moving dip switches, the user can define the OFF (duration between) periods between irrigations.

Example: If programming STATION 1.

User desires irrigation begin at 7:00 am, irrigate for 90 seconds, repeat this procedure 4 times, with 60 minutes between each irrigation.

To perform the above task:

Note:

MINI-MIST must be reset each time Dip Switches are moved, Dip Switches should be set prior to any programming of the **MINI-MIST**. (See System Reset, page 3)

Refer to chart on page 2.

Station Type - Station 1. For irrigation, Dip Switch #1 in ON position.

Irrigation Repetitions - STATION 1. Locate the '4 times' settings. In this instance Dip Switches #3 and #4 are in the ON position.

Irrigation Repetition Off Time - Station 1. Locate '60 Minutes'. In this instance Dip Switch #7 is in the ON position and Dip Switch #8 is in the OFF position.

After all Dip Switches are in correct position, System should be reset. Refer to **reset system**, page 3.

After system reset, user defines the 7:00 am start time and the 90 second irrigation period via the front panel toggle switches. Refer to **MINI-MIST IRRIGATION**, page 6 of manual. User should also assure the **MINI-MIST** clock is set to the correct time.

System now programmed. To start **MINI-MIST**, move the RUN/SET toggle to RUN and the STATION 1 toggle switch to AUTO.

DIP SWITCH SETTINGS

<i>Desired Outcome</i>	<i>Dip Switch Setting</i>
Station Type - Station 1	
If Misting Station 1	Dip Switch #1 = OFF
If Irrigation Station 1	Dip Switch #1 = ON
Station Type Station 2	
If Misting Station 2	Dip Switch #2 = OFF
If Irrigation Station 2	Dip Switch #2 = ON
Irrigation Repetitions - Station 1	
<i>Allows user to schedule the number of times the Irrigation will occur. If more than '0', use with dip switches 7 & 8 listed below.</i>	
If Irrigating repeats 0 time then	Dip Switch #3OFF/#4 OFF
If Irrigating repeats 1 time then	Dip Switch #3OFF/#4 ON
If Irrigating repeats 2 time then	Dip Switch #3ON/#4 OFF
If Irrigating repeats 4 time then	Dip Switch #3ON/#4 ON
Irrigation Off Time - Station 1	
<i>Allows user to schedule the amount of OFF time between Irrigation cycles.</i>	
If 10 min. desired between Irrigations then	Dip Switch #7OFF/#8OFF
If 30 min. desired between Irrigations then	Dip Switch #7OFF/#8ON
If 90 min. desired between Irrigations then	Dip Switch #7ON/#8OFF
If 120 min. desired between Irrigations then	Dip Switch #7ON/#8ON
Irrigation Repetitions - Station 2	
<i>Allows user to schedule the number of times the Irrigation will occur. If more than '0', use with dip switches 9 & 10 listed below.</i>	
If Irrigating repeats 0 time then	Dip Switch #5OFF/#6 OFF
If Irrigating repeats 1 time then	Dip Switch #5OFF/#6 ON
If Irrigating repeats 2 time then	Dip Switch #5ON/#6 OFF
If Irrigating repeats 4 time then	Dip Switch #5ON/#6 ON
Irrigation Off Time - Station 2	
<i>Allows user to schedule the amount of time OFF between Irrigation cycles.</i>	
If 10 min. desired between Irrigations then	Dip Switch #9OFF/#10OFF
If 30 min. desired between Irrigations then	Dip Switch #9OFF/#10ON
If 60 min. desired between Irrigations then	Dip Switch #9ON/#10OFF
If 190 min. desired between Irrigations then	Dip Switch #9ON/#10ON
Night Misting Adjustments	
If no night adjustment then	Dip Switch #11 OFF/#12 OFF
If ON time 50% value, OFF time 100% value then	Dip Switch #11 OFF/#12 ON
If ON time 25% value, OFF time 100% value then	Dip Switch #11 ON/#12 OFF
If ON time 50% value, OFF time 200% value then	Dip Switch #11 ON/#12 ON

Installation Procedures

MINI-MIST Instruction Guide

The *MINI-MIST* is a programmable propagation misting and irrigation greenhouse control system. Follow instructions completely to assure proper installation and operation of your *MINI-MIST* system. Read all instructions prior to programming.

MINI-MIST Power

Always use stranded wire when connecting cables or conductors to the actual circuit board of the control panel. This will allow flexibility. Use no smaller than #18 gauge stranded wire for all outputs.

MINI-MIST Dip Switches

When in misting mode, most operations can be completed via the front control panel. When programming for Irrigation the user will want to set other parameters via Dip Switches, located on the back panel of the *MINI-MIST*. Full Dip Switch explanation can be found on the previous page. The only time Dip Switches will be used for Misting, is in the Night Misting Adjustments. Set Dip Switches prior to mounting.

MINI-MIST Mounting

Mount your *MINI-MIST* in an accessible location. Make sure the location is free of vibration and in close proximity to devices being controlled. Always consider voltage drop of electrical current when locating the *MINI-MIST*. Securely mount your *MINI-MIST*. If operations will occur during the night and light sensitive photo cell will be used, be sure to avoid direct incandescent light on photo cell during the evening.

Choosing Stations

Prior to any operation, the system user must make the designation of STATION 1 and STATION 2. Each station may be set for Misting or Irrigation. Within irrigation, the user may set a number of variables utilizing Dip Switches. Instructions for desired settings can be found on 'Dip Switch Settings' page 2.

Misting – In the misting mode, the user can define the amount of time misting will occur during a designated time period. When programming misting, two operations are necessary. The first operation sets the time of day for the program to begin and end. The second operation will define the time lengths and/or waiting time between operations.

For example: From 10:00 am to 3:00 pm, the misting operation can be turned on every 'X' minutes for a predetermined amount of time up to 120 seconds.

Irrigation – In the irrigation mode, the user can define an irrigation starting time and multiple irrigation cycles within that given period. User can also define operation days. When programming irrigation, front panel programming as well as Dip Switches are utilized.

For example: Irrigation can be turned on at 'X' hour (AM or PM), run for a period of time, and then turn off. (maximum 120 minutes). The user can also have the irrigation repeat itself, 0, 1, 2 or 4 times with a 10, 30, 60 or 90 minute delay between irrigations. Operator can also define every day, every second day, or every third day.

System Reset

IMPORTANT: Each time changes are made to Dip Switches, *MINI-MIST* must be reset and reprogrammed.

To reset system: Hold down the RUN/SET and the VALUE toggle switches until the LCD image disappears from the screen (about 10 seconds). Release switches. *MINI-MIST* will reset itself within 5 seconds.

see figure A

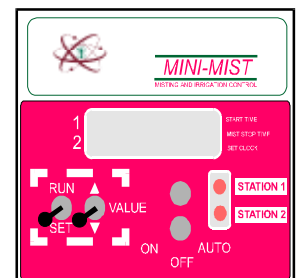


figure A

Programming Procedures

MINI-MIST Layout

The **MINI-MIST** was created for easy user programming. The following highlights the front panel of the **MINI-MIST** system. Refer to setting and operation for details.

see figure B

SET – Use this position to program your **MINI-MIST** or update settings

RUN – After programming times have been established, move toggle to RUN to execute.

VALUE – When in programming (SET) mode, this switch will change the desired values. Value up increases the display while value down decreases the display.

STATION 1 – When lit, STATION 1 is in progress.

STATION 2 – When lit, STATION 2 is in progress.

ON/OFF/AUTO – Throw these switches to control individual stations. Selects Manual ON/OFF or Automatic Mode

LCD DISPLAY – Located in the upper portion of the **MINI-MIST**, the LCD DISPLAY will visually display the current status of the system. The 'Start Time, Mid Stop Time, and Set Time will be explained later.

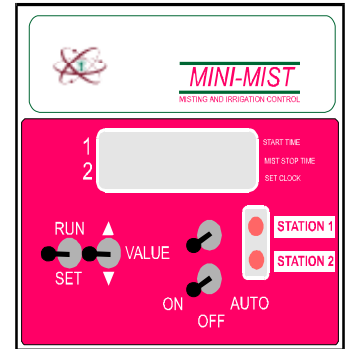


figure B

Settings and Operations

Follow the settings and operations section to assure your **MINI-MIST** system works correctly. Before making any settings, be sure your **MINI-MIST** system has power.

To program the **MINI-MIST** system, the RUN/SET and VALUE toggles will be used.

The RUN/SET and VALUE toggle switches are single pull. They will move back to original position after each throw.

The LCD DISPLAY will display status of each operation.

MINI-MIST Misting

DIP SWITCH IN OFF POSITION OF DESIRED STATION. REMEMBER TO RESET SYSTEM AFTER DIP SWITCH CHANGES.

SETTING HOURS OF MISTING OPERATIONS

Setting the hour of day to *begin* misting of STATION 1. *see figure 1*

Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to start time. An flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 misting to begin, use the VALUE toggle switch, up or down.

Setting the minute to begin misting of STATION 1. *see figure 2*

Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the misting begin.

Setting day or evening to begin misting of STATION 1. *see figure 3*

Flip the RUN/SET toggle one more time to SET. An 'A' or 'P' will now flash. Use the toggle to set AM or PM. (Value up = AM, value down = PM).

Set the hour of day to *conclude* misting operations of STATION 1. *see figure 4*

Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to MIST STOP CLOCK. A flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 misting to stop, use the VALUE toggle switch, up or down.

Set the minute to *conclude* misting of STATION 1. *see figure 5*

Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the misting stop.

Set day or evening to *conclude* misting STATION 1. *see figure 6*

Flip the RUN/SET toggle one more time to SET. An 'A' or 'P' will now flash. Use the toggle to set AM or PM. (Value up = AM, value down = PM).

Refer to these Figures When Programming MINI-MIST

FIGURE 1

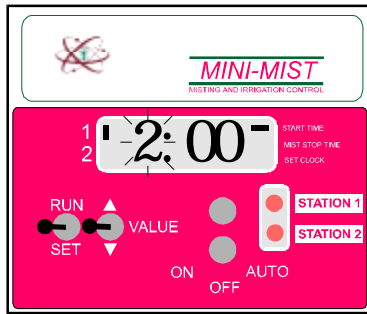


FIGURE 5

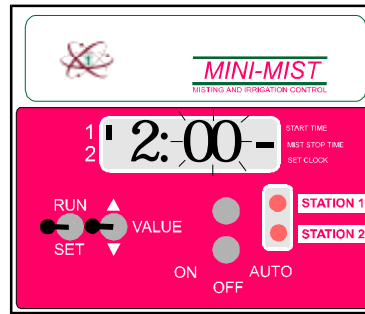


FIGURE 2



FIGURE 6

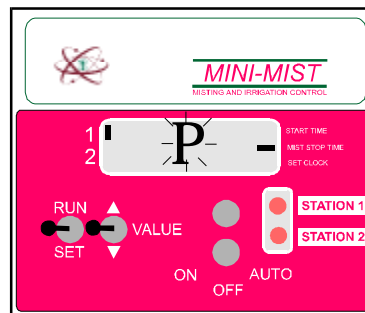


FIGURE 3

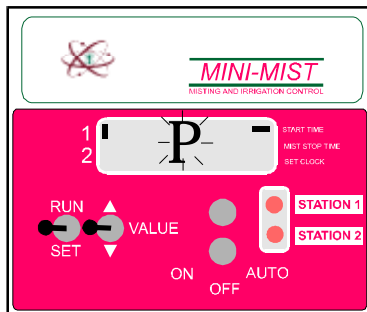


FIGURE 7

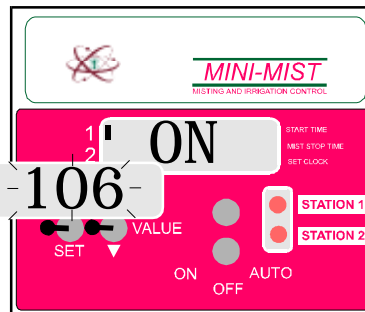


FIGURE 4

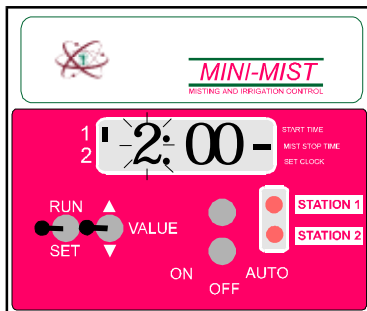
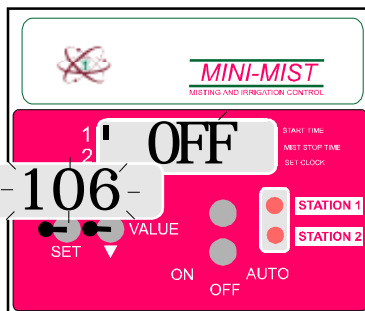


FIGURE 8



MINI-MIST MISTING, CONT.

SETTING DURATION OF MISTING OPERATION

Set duration 'ON' period (*up to 120 seconds of continuous misting*). *see figure 7*

Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1. The word 'ON' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.

Use the VALUE toggle switch to change to desired length of misting time. (Maximum time length: 120 minutes).

Set duration 'OFF' period (*length of time between misting*). *see figure 8*

Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1. The word 'OFF' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.

Use the VALUE toggle switch to change to desired length of time between misting periods.

Set Internal Clock (*see set clock, page 7*)

If Misting is desired for STATION 2, repeat the above steps.

Toggle to STATION 2. If Misting is different during evening hours, refer to Night Misting on page 7 and Dip Switch page 2.

MINI-MIST IRRIGATION

SET DIP SWITCHES FOR STATION 1 AND/OR 2.

SET START TIME OF IRRIGATION

The user sets the start time, length of irrigation & days of operation. The number of watering periods and length between irrigations are set via Dip Switches.

Note: Any Dip Switches changes require system reset.

See Reset System, page 3

Setting Station hour to *begin* Irrigation STATION 1. *see figure 1*

Flip the RUN/SET toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1 indicating station to be programmed. A status light will be displayed next to start time. An flashing hour will be displayed indicating a random hour of day. To change the hour of day you wish STATION 1 Irrigation to begin, use the VALUE toggle switch, up or down.

Setting the minute to begin Irrigation of STATION 1. *see figure 2*

Flip the RUN/SET toggle one more time to SET. The minutes will now flash. Use the toggle to set the correct minute you wish to have the Irrigation begin.

Setting day or evening to begin Irrigation of STATION 1. *see figure 3*

Flip the RUN/SET toggle one more time to SET. An 'A' or 'P' will now flash. Use the toggle to set AM or PM.

SET DAYS OF IRRIGATION

Mini-Mist Irrigation allows the operator to select days of operation. User can select 'ALL' days, every '2nd' day, or every '3rd' day.

Flip the RUN/SET toggle to SET. The word DAY will appear for approximately 2 seconds and disappear. The word 'ALL' will appear. Toggle to desired irrigation setting

ALL = Irrigation every day. **2nd** = Irrigation every other day. **3rd** = Irrigation every third day

SETTING DURATION OF IRRIGATION

Set duration 'ON' period (*up to 120 minutes of Irrigation*). *see figure 7*

Flip the RUN/Set toggle switch to SET. The LCD DISPLAY will display a lighted bar next to STATION 1. The word 'ON' will appear on screen for approximately 2 seconds and then disappear revealing a blinking time.

Use the VALUE toggle switch to change to desired length of misting time. (Maximum time length: 120 minutes).

Set Internal Clock (*see set clock, page 7*)

MINI-MIST CLOCK

SETTING INTERNAL CLOCK TO PRESENT TIME OF DAY

Set Hour. *see figure 1.*

Flip the RUN/SET toggle switch to SET until the LCD DISPLAY displays a lighted bar next to SET CLOCK . A flashing hour will be displayed indicating a random hour of day. Set correct hour using VALUE toggle switch.

Set the minute. *see figure 2.*

Flip the RUN/SET toggle one time to SET. The minutes will now flash. Use the toggle to set the correct minute.

AM or PM. *see figure 3.*

Flip the RUN/SET toggle one time to SET. An 'A' or 'P' will now flash. Use the toggle to set AM or PM.

MINI-MIST RUN ...ON/OFF/AUTO

BEGINNING OPERATIONS

After all programming has been complete system may be tested by moving RUN/SET toggle switch to RUN and ON/OFF/AUTO toggle to AUTO. This begins system. To manually begin system, move toggle to 'ON' (system will start, but status lights will not operate).

MINI-MIST NIGHT MISTING

MINI-MIST arrives from the factory with a light sensitive photo cell. If operations occur during evening hours, operations may be adjusted using the Night Misting Dip Switch Settings. (*see page 2*). **Note:** The photo cell is light sensitive and will only register a night reading when light levels are low. Be sure to point MINI-MIST away from direct incandescent or fluorescent lighting.

