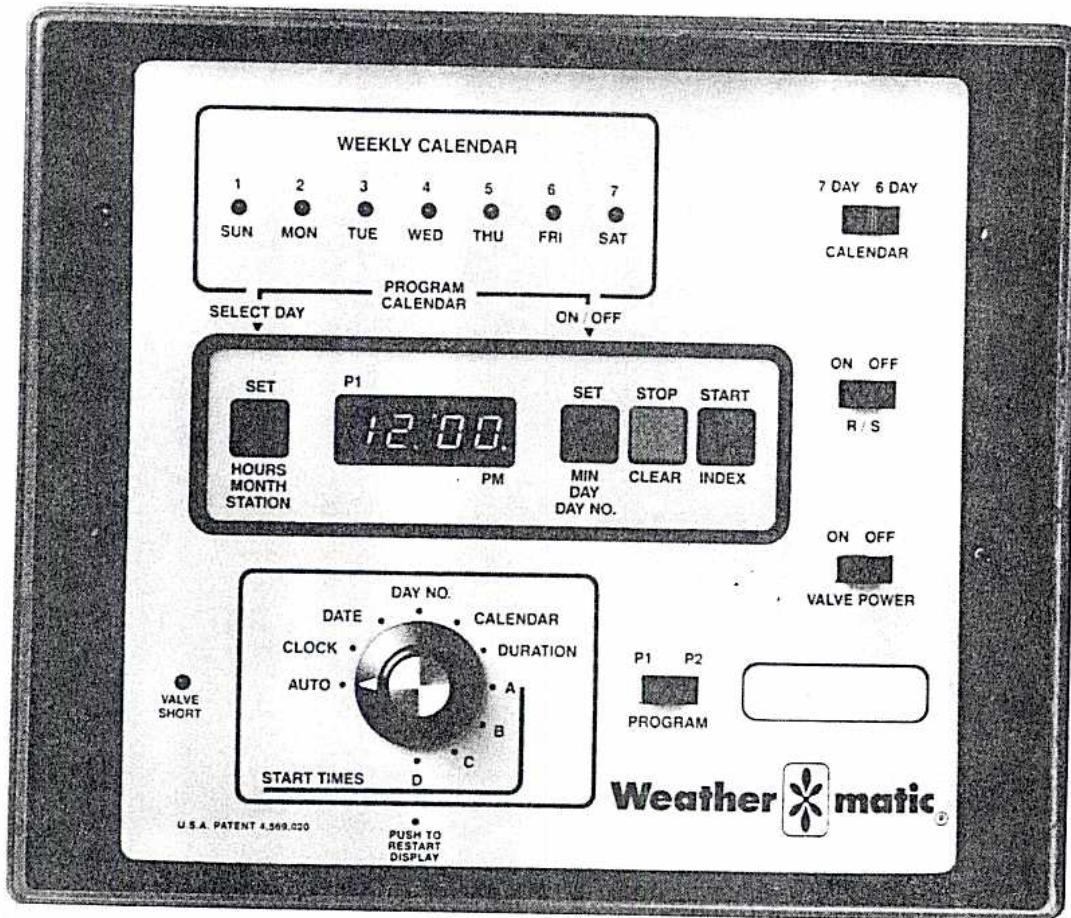




# OPERATING MANUAL



U.S.A. PATENT 4,569,020

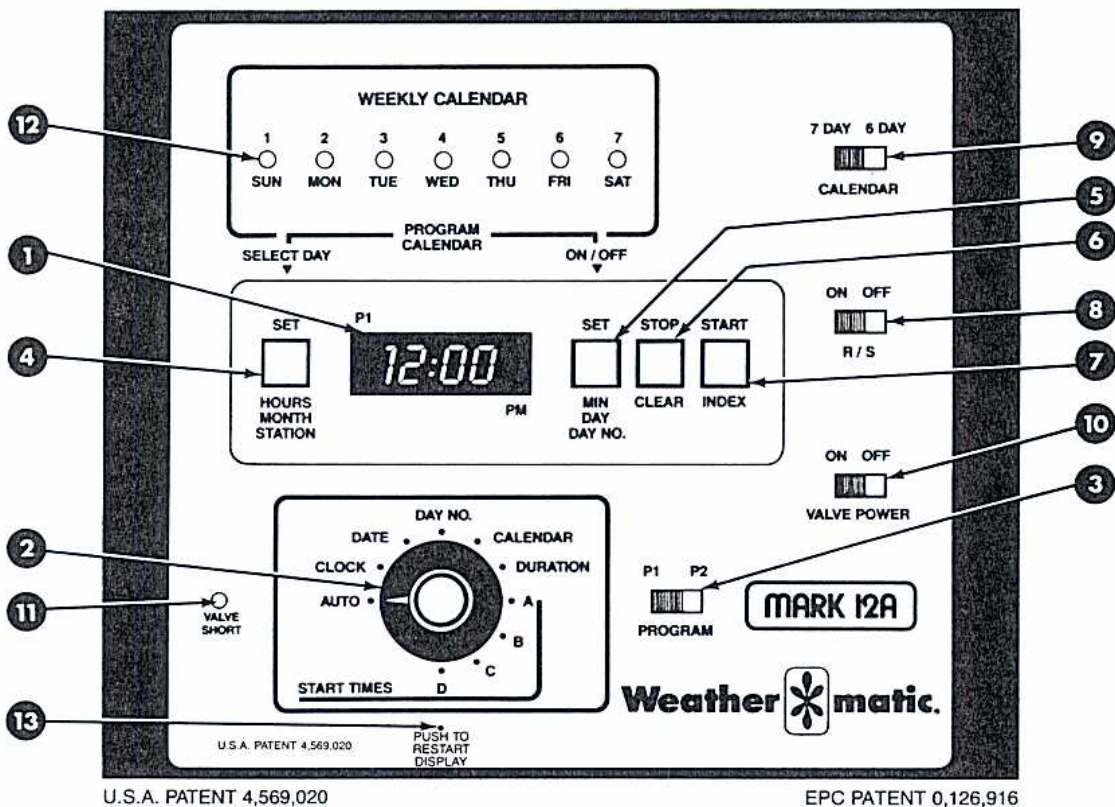
EPC PATENT 0,126,916

## MARK "A" AND MARK 200 SERIES IRRIGATION CONTROLLERS

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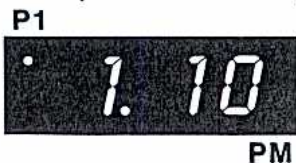
## 1 DIGITAL DISPLAY:

The Digital Display consists of 2 pairs of digits sometimes separated by a colon or decimal point, a Program "P1" indicator dot in the upper left corner, and a "PM" indicator dot in the lower right corner. The display shows the time of day while the controller is in a standby mode or shows the station number and remaining watering time when a watering cycle is in progress. Data which appear in the display while programming are explained later.

When the controller is in the standby mode with Function Selector in the "AUTO" position, display shows time of day with a "blinking" colon which confirms that the controller is operating normally and keeping time. The "PM" dot will be lighted from 12:00 noon until 11:59 p.m.



When a watering cycle is in progress, the display will show the station number on the left side, a decimal point in the center, and the REMAINING WATERING TIME on the right side. The "P1" dot turns on when a station on Program P1 is watering and remains off when Program P2 is operating.



## 2 FUNCTION SELECTOR:

Used to select programming functions and to initiate Single Station watering. When not used, Function Selector should be left in the "AUTO" position.

## 3 PROGRAM SWITCH:

Program P1 and P2 are programmed independently for watering days, watering durations, and up to 4 starting times on each program. The Program Switch is used to route data to Programs P1 and P2 as well as to select a program for Single Station and Semi-automatic watering. Refer to "PROGRAMS P1 and P2", Section (18), for additional details. POSITION OF THE PROGRAM SWITCH DOES NOT AFFECT AUTO-MATIC WATERING.

## 4 LEFT SET BUTTON:

Used to enter program data. Momentarily press to change a single figure or hold down to change figures rapidly.

## 5 RIGHT SET BUTTON:

Same as above description for Left Set Button.

## 6 STOP/CLEAR BUTTON:

With Function Selector in the "AUTO" position, press this button to stop watering, to stop display from flashing, and to turn off a "blinking" Valve Short Lamp. It is also used to clear certain entries while programming "Durations" and "Start Times".

## 7 START/INDEX BUTTON:

Used to start Semi-automatic and Single Station watering as well as to index from one station to the next during a watering cycle. Except for a Single Station start, the Start/Index Button will operate only when Function Selector is in the "AUTO" position. Hold down to rapidly index stations.



### 8 RAIN-STAT SWITCH:

When the Rain-stat has interrupted watering because of rain-fall, this switch (in "OFF" position) bypasses the Rain-stat to permit watering. If controller is not equipped with a Rain-stat, position of this switch has no effect. NOTE: Rain-stat is an optional accessory available from Weather-matic.

### 9 CALENDAR SWITCH:

Selects 6 DAY or 7 DAY Calendar. See "PROGRAMMING FOR AUTOMATIC OPERATION", Sections (G) and (H), for additional explanations.

### 10 VALVE POWER SWITCH:

Disconnects power from the valve circuit. May be used any time to prevent watering without affecting programmed data.

### 11 VALVE SHORT LAMP:

If the controller encounters a shorted valve circuit, this circuit will be skipped, and the controller will continue watering. AFTER the watering cycle has been COMPLETED, the Short Lamp will turn on in a "blinking" mode IF the Function Selector is in the "AUTO" position. The Short Lamp will NOT light up while the controller is watering nor when the Function Selector is NOT in the "AUTO" position. NOTE: When a shorted station is skipped, the pump circuit and all stations turn off for about 1 second. During this period, the Digital Display is turned off.

### 12 CALENDAR LAMPS:

Indicate actual days of the week on which watering will occur. Whenever the Function Selector is first turned to the "CALENDAR" position, Calendar Lamps will show the days PREVIOUSLY programmed to water. After programming the Calendar Lamps, moving the Function Selector out of the "CALENDAR" position and back again will UPDATE the Calendar Lamps to show a true watering schedule based on all new data entered.

### 13 RESET SWITCH ACCESS HOLE:

A Reset Switch is mounted behind the panel and is accessible through the small hole labeled "PUSH TO RESTART DISPLAY". Operating the Reset Switch will ERASE ALL USER PROGRAMMED DATA and reset the controller to its original power-up condition with the Back-up Watering Program installed. The Reset should only be used as explained in "STARTING UP", Sections (B) and (C).

## FEATURES NOT VISIBLE ON FACE PANEL

### 14 BACK-UP WATERING PROGRAM:

If your watering program is lost while you are on vacation, the Back-up Program will provide daily watering. See "STARTING UP", Section (A), for more information.

### 15 BATTERY BACK-UP CIRCUIT:

Controllers are equipped with a back-up battery circuit which

will maintain the clock timing and programmed data for about 1 hour in the event of a power failure. If a watering cycle is interrupted by a power failure, the operating station will turn off. When power is restored, the controller will turn on and continue watering with the next scheduled station.

**BATTERIES ARE NOT INCLUDED AND MUST BE FURNISHED BY THE USER. USE ONLY 9 VOLT NICAD BATTERIES (2 ARE REQUIRED). WHEN INSTALLING NEW NICAD BATTERIES, DO NOT DEPEND ON THEM TO BACK-UP THE PROGRAMMING UNTIL THEY HAVE BEEN INSTALLED ABOUT 48 HOURS. NEW NICAD BATTERIES OR THOSE WHICH HAVE BEEN STORED FOR A LONG TIME ARE NOT CHARGED.**

### 16 START TIME STACKING:

On **MK200 SERIES CONTROLLERS**, starting times which overlap a previous watering cycle are "stacked" in the memory. As each watering cycle is completed, the "stacked" starting times are used so that none of the watering schedules are lost. If a P1 and P2 start are simultaneous, the P1 start will occur but the P2 start is lost. All "stacked" starts will take place even if carried over midnight into a day not scheduled to water.

**STACKED START TIMES WILL BE ERASED IF A WATERING CYCLE IS STOPPED WITH THE RED STOP BUTTON.**

### 17 WATERING TEST PROGRAM:

The **MK200 SERIES CONTROLLERS** have a separate program which provides 2 minutes watering on active stations. See "WATERING TEST PROGRAM", Section (0), for details.

### 18 PROGRAMS P1 AND P2:

The 2 programs are totally independent except they cannot be run simultaneously because the water supply and piping arrangement in a normal sprinkler system cannot handle more than 1 section (station) at a time.

**CALENDAR PROGRAMMING:** Programs P1 and P2 may be scheduled to water on different days, the same days, or a combination of both schedules.

**DURATION PROGRAMMING:** Any station may be scheduled on Program P1 or Program P2 or both programs. The duration of a station may be the same on both programs or different on each program.

**START TIMES:** EACH of the 2 programs can have up to 4 starting times, a TOTAL of 8 starts for BOTH programs. Each of the 8 starting times must be for a DIFFERENT TIME and must NOT occur while either program is operating. Leave a few minutes (at least 1 minute) between the end of one watering period and start of the next. If Program P2 is programmed to start at the same time as Program P1, the P2 start will be lost. On the **MK "A" CONTROLLERS**, any start which occurs while one of the programs is watering will be lost. On the **MK200 SERIES CONTROLLERS**, any start which overlaps an operating program will be "stacked" and used at a later time.



## SPECIAL INSTRUCTIONS FOR MK16A & MK24A CONTROLLERS

The MK16A and MK24A Controllers are programmed and operated the same as all MK "A" Controllers except for use of the Valve Power and Rain-stat Switches. For special instructions explaining use of these 2 switches, please refer to the separate instruction sheet titled "MK16A and MK24A OPERATING INSTRUCTION SUPPLEMENT".

### STARTING UP

#### A BACK-UP WATERING PROGRAM:

When the controller is first connected to a power source, or power is restored after a long power outage beyond the life of the back-up batteries, or anytime the Reset Switch is used, a BACK-UP WATERING PROGRAM is automatically installed in the controller's memory and the Digital Display will be flashing.

**WHEN BATTERIES ARE DISCHARGED, DISPLAY MAY REMAIN BLANK FOR UP TO 30 SECONDS BEFORE FLASHING "0:00".**

To stop the Digital Display from flashing, press the red Stop Button. The Back-up Program has values for Program P1 as shown below. Program P2 has similar values but is inactive since all four Start Times are "0:00".

| FUNCTION SWITCH | MK6A/8A/12A   | MK200 SERIES  |
|-----------------|---------------|---------------|
| AUTO            | 12:00 PM      | 12:00 PM      |
| CLOCK           | 12:00 PM      | 12:00 PM      |
| DATE            | 1 - 1         | 1 - 1         |
| DAY No.         | 1             | 1             |
| CALENDAR, 7 DAY | S M T W T F S | S M T W T F S |
| CALENDAR, 6 DAY | S T T S       | S T T S       |
| DURATION        | 10 MINUTES    | 5 MINUTES     |
| START TIME "A"  | 1:00 PM       | 1:00 PM       |
| START TIME "B"  | 0:00          | 3:30 PM       |
| START TIME "C"  | 0:00          | 0:00          |
| START TIME "D"  | 0:00          | 0:00          |

**REGARDLESS OF THE TIME OF DAY, ONE HOUR AFTER POWER IS RESTORED PROGRAM P1 WILL START WATERING WITH THE DURATIONS SHOWN ABOVE. — PROGRAM P2 IS NOT ACTIVE —**

**SLIDE VALVE POWER SWITCH "OFF" TO PREVENT ACCIDENTAL WATERING.**

#### B BEFORE PROGRAMMING:

Turn the Function Selector to "AUTO". If the display shows hours and minutes with a "blinking" colon, proceed with "PROGRAMMING FOR AUTOMATIC OPERATION", Section (D). If display shows a flashing "00 00", press the red Stop Button and proceed with programming if the display now shows hours and minutes with a "blinking" colon. If the display shows random characters or is blank, reset controller as explained in the "RESET PROCEDURE" below before doing any programming.

#### C RESET PROCEDURE:

Make certain the Function Selector is in the "AUTO" position. Locate the small hole labeled "PUSH TO RESTART DISPLAY" just below the Function Selector knob. Using a small piece of wire similar to a paperclip, insert through the hole and momentarily push the Reset Switch which is located under the panel. The display will turn on with a flashing "00 00". Press the red Stop Switch. Flashing will stop and display will now show "12:00 PM" with a blinking colon which indicates that the controller is keeping time and functioning normally.

### PROGRAMMING FOR AUTOMATIC OPERATION

#### D SETTING THE CLOCK:

The Clock is a standard 12 hour type with a "PM" dot in the lower right hand corner of the display. The "PM" dot is LIGHTED from 12:00 noon through 11:59 pm and TURNED OFF from 12:00 midnight through 11:59 am.

- Turn the Function Selector to "CLOCK".
- Press LEFT Set Button to enter hours. Verify status of "PM" dot is correct.
- Press RIGHT Set Button to set minutes.



#### E SETTING THE DATE:

The date is entered in the numbered month and day form. January = 1, February = 2, through December = 12 and days = 1 thru 30 or 31 except 28 in February.

- Turn Function Selector to "DATE".
- Press LEFT Set Button to select the month at the left side of the display.
- Press RIGHT Set Button to select the day at the right side of the display.

#### F SETTING THE DAY NUMBER:

Each day of the week is numbered, Sunday = 1, Monday = 2, thru Saturday = 7 as marked above the 7 Calendar Lamps at top of the controller panel.

- Turn Function Selector to "DAY NO."
- Press right Set Button until the correct number for the current day of the week is shown in the display.

**IF WATERING IS TO BE DONE ON SPECIFIC DAYS OF THE WEEK, CONTINUE PROGRAMMING WITH 7 DAY CALENDAR MODE IN SECTION (G).**

**IF WATERING IS TO BE ACCOMPLISHED ON ODD DAYS, EVEN DAYS, OR EVERY THIRD DAY, SKIP SECTION (G) AND GO TO 6 DAY CALENDAR MODE IN SECTION (H).**



### **G** 7 DAY CALENDAR MODE:

The 7 DAY mode waters on specific days of the week, such as Monday, Wednesday, Friday. Once programmed, watering will occur on the same days of the week throughout the year.

- (1) Turn Function Selector to "CALENDAR".
- (2) Slide Calendar Switch to "7 DAY".
- (3) Slide Program Switch to "P1" and leave in this position until all P1 programming has been completed.
- (4) Using LEFT Set Button to index from one Calendar Lamp to the next (lamp numbers 1 thru 7 will appear in the display) and using RIGHT Set Button to toggle each lamp on or off, set lamps "ON" for days to water and "OFF" for days not to water.

**AFTER PROGRAMMING A 7 DAY CALENDAR MODE, SKIP SECTION (H) AND GO TO SECTION (I).**

### **H** 6 DAY CALENDAR MODE:

The 6 DAY mode waters on a six day schedule which disregards the days of the week and is generally used for ODD DAY, EVEN DAY, or THIRD DAY operation. When programmed in this manner, watering will occur on the same 6 DAY schedule throughout the year.

An ODD DAY schedule waters on ODD NUMBERED DAYS of the month and the EVEN DAY schedule waters on EVEN NUMBERED DAYS of the month. Watering will be automatically skipped on the 31st day of long months for ODD DAY or EVEN DAY schedules but will NOT be automatically skipped on a THIRD DAY schedule.

- (1) Turn Function Selector to "CALENDAR".
- (2) Slide Calendar Switch to "6 DAY".
- (3) Slide Program Switch to "P1" and leave in this position until all P1 programming has been completed.

**EVEN IF THE PREVIOUSLY PROGRAMMED LAMP PATTERN IS THE SAME AS YOU NOW WANT, ALWAYS TOGGLE THE LIGHTED LAMPS "OFF" AND THEN "ON" AGAIN TO CONFIRM TO THE CONTROLLER THAT A NEW SCHEDULE IS BEING PROGRAMMED.**

- (4) Using the LEFT Set Button to index from one Calendar Lamp to the next (Calendar Lamp numbers 1 thru 6 will appear in the display) and using the RIGHT Set Button to toggle each lamp on or off, set lamps "ON" for days to water and "OFF" for days not to water. NOTE: Saturday Lamp cannot be programmed but turns on along with Sunday Lamp and represents the first day of the next 6 DAY schedule.

**IN THE EXAMPLES BELOW,  
LAMP "ON" - ● LAMP "OFF" - ○**

**ODD DAY WATERING:** ○ ● ○ ● ○ ● ○  
Starting with the first ODD day in the current week, set every other Calendar Lamp "ON". **EXAMPLE SHOWN:** Today is Thursday, June 6.

### **EVEN DAY WATERING:**

Starting with the first EVEN day in the current week, set every other Calendar Lamp "ON". **EXAMPLE SHOWN:** Today is Thursday, June 6 (Saturday Lamp will turn on when Sunday Lamp is programmed).

### **THIRD DAY WATERING:**

Set Calendar Lamps "ON" for days Sunday and Wednesday (Saturday Lamp will turn on when Sunday Lamp is programmed), or Monday and Thursday, or Tuesday and Friday. **EXAMPLE SHOWN:** Today is Wednesday, June 5, and we will start watering tomorrow.

### **I** SETTING THE WATERING DURATIONS:

The watering time may be set from 1 to 99 minutes for each station. Pressing the red Clear Button will erase the duration appearing in the display and reset it to "00".

- (1) Turn Function Selector to "DURATION".
- (2) Press LEFT Set Button to select the stations.
- (3) Press RIGHT Set Button to enter the watering durations.

**ALL STATIONS NOT BEING USED MUST BE TURNED OFF. AS EACH UNUSED STATION IS SELECTED, PRESS THE RED CLEAR BUTTON TO RESET WATERING TIME TO "00".**

### **J** SETTING THE STARTING TIMES:

Each program may be started up to 4 times on any day which is scheduled to water as programmed on the Calendar at Section (G) and (H). Each start time must be SPACED AT LEAST 1 MINUTE after the previous program has FINISHED watering. Pressing the red Clear Button will erase the start time appearing in the display and reset it to "0:00". NOTE: **MK200 CONTROLLERS** will "stack" overlapped starting times. See "OPERATING CONTROLS AND FEATURES", Section (16).

- (1) Turn Function Selector to "START TIME A".
- (2) Press the LEFT Set Button to enter the hour. Remember that days change from one day to the next (i.e., Monday to Tuesday) at midnight. Also, make certain that "PM" dot is lighted if the start time falls between noon and midnight.
- (3) Press the RIGHT Set Button to enter the minutes.
- (4) Repeat steps 1 thru 3 for Start Times "B, C, or D" if needed.

**ANY START TIMES "B, C, OR D" WHICH ARE NOT USED MUST BE SET TO "0:00" WITH THE RED CLEAR BUTTON.**

- (5) If more than 1 START TIME is being used, add up the DURATIONS to determine the time required for a watering cycle. Then, make sure that the length of time BETWEEN the START TIMES will allow each watering cycle to be completed before the next starting time occurs.



USED, PROCEED WITH "P2 PROGRAMMING", SECTION (K). IF NOT USED, COMPLETE THE FOLLOWING STEP (6).

- (6) Slide the Program Switch to "P2". Turn the Function Selector to Start Time positions "A thru D" and, while doing so, set each start time to "0:00" with the red Clear Button.

**SINCE PROGRAM P2 IS NOT BEING USED, SKIP THE FOLLOWING SECTION (K) AND GO TO SECTION (L).**

### **K P2 PROGRAMMING:**

Program P2 must be programmed in the same Calendar mode (6 DAY or 7 DAY) as Program P1. If Program P2 is scheduled to start while Program P1 is watering, the P2 start will be lost. Therefore, schedule P2 starts carefully so that they will not occur while Program P1 is operating. **NOTE: MK200 CONTROLLERS WILL "stack" overlapped starting times.** See "OPERATING CONTROLS AND FEATURES", Section (16).

- (1) Make sure that the Calendar Switch is in the same position (6 DAY or 7 DAY) as used for Program P1.
- (2) Slide the Program Switch to "P2" and leave in this position until all P2 programming has been completed.
- (3) Repeat Calendar programming steps (1)(2)(4) in Section (G) or Section (H), whichever is the same as used for Program P1.
- (4) Repeat Duration programming steps (1) thru (3) in Section (I).
- (5) Repeat Start Time programming steps (1) thru (5) in Section (J).

### **L FINAL SETTINGS:**

To complete programming, carefully check all programming entries and make the switch settings shown below.

- (1) Programming may be checked by rotating the Function Selector to each position and viewing information shown in the Digital Display. Be sure to check the Calendar, Duration, and Start Time programming for BOTH Programs P1 and P2.

In checking the Calendar, remember that when the Function Selector is turned INTO the "CALENDAR" position, the Calendar Lamps indicate the actual days of the CURRENT WEEK on which watering will occur. Watering will be skipped on the 31st day if Calendar was programmed for ODD or EVEN DAY watering.

Watering durations can be quickly checked by rapidly pressing or holding down the LEFT Set Button. Do NOT use the RIGHT Set Button, otherwise programmed durations will be changed. **NOTE:** If Program P2 is not being used, the P2 Durations do not need to be set to "00" as long as all four P2 Start Times are set to "00:00" (setting the four Start Times to "00:00" makes Program P2 inactive).

for through all 4 starting times with Program Switch in "P1" position and then again with Program Switch in "P2" position. Make sure that the "PM" dot status is correct and that UNUSED starting times are "0:00".

- (2) Turn Function Selector to "AUTO". Leave in this position for automatic watering.
- (3) Make certain the Calendar Switch is in the correct position.
- (4) Slide the Rain-stat Switch to "ON".
- (5) Slide the Valve Power Switch to "ON".
- (6) The **P1/P2 PROGRAM SWITCH DOES NOT AFFECT AUTOMATIC OPERATION** and may be left in either position.

**WHEN THE AUTOMATIC WATERING CYCLE HAS FINISHED, THE CONTROLLER WILL TURN OFF AND RESUME ITS NORMAL STANDBY MODE.**

**THIS COMPLETES ALL PROGRAMMING NEEDED FOR AUTOMATIC OPERATION.**

## **SEMI-AUTOMATIC OPERATION**

### **M SEMI-AUTOMATIC START:**

Provides complete watering of all ACTIVE stations (those which have watering durations programmed) for whichever Program (P1 or P2) is selected. It may be used to provide an extra watering cycle during very hot weather or after fertilizing and may be started at any time without disturbing the automatic programming. If a watering cycle is in progress and you wish to stop it so that a Semi-automatic Operation can be started, make sure that the Function Selector is in "AUTO" position, press the red Stop Switch, and then proceed with the instructions below:

- (1) Turn Function Selector to "AUTO" position.
- (2) Choose program to be run (P1 or P2) and set the Program Switch accordingly.
- (3) Press the Start Button. The display will show Station #1 (or the first station which has a duration programmed) on the left side and watering time on the right side. The "P1" dot will be lighted if Program P1 was selected.

If you would like to start with a different station, press the Index Button a few times until the desired station appears in the display.

**WHEN THE SEMI-AUTOMATIC WATERING CYCLE HAS FINISHED, CONTROLLER WILL TURN OFF AND RESUME ITS NORMAL STANDBY MODE.**

## **SINGLE STATION OPERATION**

### **N SINGLE STATION START:**

Allows watering one particular station for its programmed duration on whichever Program (P1 or P2) is chosen. If a watering cycle is in progress and you wish to stop it for Single Station Operation, make sure that the Function Selector is in



"AUTO" position, press the red Stop Switch, and then proceed with the instructions below.

- (1) Select the Program (P1 or P2) on which this station is normally watered and set the Program Switch accordingly. If the station occurs on both Programs P1 and P2, choose the program which has the more desirable watering duration.
- (2) Turn Function Selector to "DURATION" position.
- (3) Using the left Set Switch, index to the station wanted. Display will show station number on the left side and programmed duration on the right side.
- (4) Press the Start Button.
- (5) Return the Function Switch to its "AUTO" position. Do NOT leave in the DURATION position. Digital Display will now show the station number on the left side, a decimal point in the center, and watering time on the right side. The "P1" dot will be lighted if the selected station is on Program P1.

**WHEN THE SINGLE STATION CYCLE HAS FINISHED, CONTROLLER WILL TURN OFF AND RESUME ITS NORMAL STANDBY MODE.**

## **WATERING TEST PROGRAM FOR MK200 CONTROLLERS**

### **O STARTING TEST PROGRAM:**

The TEST PROGRAM is standard on the **MK200 SERIES CONTROLLERS**. The program sets up a 2 minute watering duration for each ACTIVE station and may be used to test a system after installation or to simply provide a short watering cycle whenever needed. Only stations which have durations programmed will be watered, and those with "00" duration will be skipped.

- (1) Turn Function Selector to "AUTO" position.
- (2) Slide Program Switch to "P1" or "P2" to select the program.
- (3) Press the LEFT Set Button, RIGHT Set Button, and START Button in the order listed within a time span of approximately 3 seconds.

**WHEN THE TEST WATERING CYCLE HAS FINISHED, CONTROLLER WILL TURN OFF AND RESUME ITS NORMAL STANDBY MODE. ALL DURATIONS WILL REVERT TO VALUES ENTERED IN SECTION (I).**

## **HINTS AND SUGGESTIONS**

- (1) On March 1 during a leap year, the "DATE" programming must be corrected to account for February 29.
- (2) If Program P2 is not being used for automatic watering, it can be used to store special station durations for Semi-automatic or Single Station watering. If used this way, all "START TIMES" for Program P2 must be set to "0:00".
- (3) If the 31st day falls on Day #1 (Sunday), an "Even Day" schedule cannot be programmed for that week. To program, assume it is the following week and program

accordingly. Then, change the date to the current week. Now, "update" and check the Calendar as explained in Section (12) to verify "days to water" are correctly scheduled.

### **PUMP WARNING**

**TO PREVENT THE POSSIBILITY OF A PUMP WORKING INTO A CLOSED HEAD, ALL UNUSED STATIONS SHOULD BE EQUIPPED WITH PUMP PROTECTION CIRCUITS. THE WEATHER-MATIC PUMP PROTECTION KIT #953 SHOULD BE USED FOR THE MK "A" SERIES CONTROLLERS. ALL MK200 CONTROLLERS HAVE A BUILT-IN PUMP PROTECTION CIRCUIT WHICH SHOULD BE CONNECTED TO UNUSED STATIONS DURING INSTALLATION.**



## TROUBLESHOOTING CHART

|   |  |
|---|--|
| <b>Flashing display.</b>                                    | <p>Short power outage. Press red Stop Button to stop flashing. Install 9 volt NiCad batteries and re-program per Section (B).</p> <p>Short power outage. Press red Stop Button to stop flashing. If NiCad batteries already installed and not discharged from a recent long power outage, replace with new batteries and re-program per Section (B).</p> <p>Long power outage (over 1 hour whereby the batteries are discharged). Press red Stop Button to stop flashing and re-program per Section (B).</p> |
| <b>No display.</b>  | <p>Power not connected or supply circuit breaker tripped.</p> <p>Electrical disturbance. Reset per Section (C) and reprogram controller.</p> <p>Batteries in bad condition such that they will not take a reasonable charge. Remove batteries. If display will light up without batteries, replace batteries and reprogram controller starting with Section (B).</p>   |
| <b>Display indicates station on but no watering occurs.</b> | <p>Check Valve Power Switch – must be “ON”.</p> <p>Slide Rain-stat Switch “OFF” to override the Rain-stat.</p>   |
| <b>Waters on wrong days.</b>                                | <p>Check position of the 6 DAY/7 DAY Calendar Switch.</p> <p>Check Calendar Lamps and make sure they are correct for the current week. See Section (12).</p>   |
| <b>Waters in PM instead of AM.</b>                          | <p>Verify CLOCK was set correctly with respect to “PM” indicator dot.</p> <p>Check “START TIMES” with respect to “PM” indicator dot.</p>   |
| <b>Program P2 does not water.</b>                           | <p>P2 “START TIME” overlaps Program P1 and is lost (applicable to MK “A” units only).</p>  |
| <b>No Automatic Start.</b>                                  | <p>A watering cycle is already in progress.</p> <p>Calendar Switch is in the wrong position where watering days were not programmed.</p>   |
| <b>Cannot Semi-auto Start.</b>                              | <p>A watering cycle is already in progress.</p> <p>Program Switch at wrong position where all durations were programmed “00”.</p>  |
| <b>Cannot start a Single Station.</b>                       | <p>A watering cycle is already in progress.</p> <p>No watering duration programmed for this station.</p> <p>Program Switch at wrong position where all durations were programmed “00”.</p>   |
| <b>Blinking Valve Short Lamp.</b>                           | <p>Indicates a short in one of the valve circuits. Use the following procedure to locate the short:</p> <ol style="list-style-type: none"><li>(1) Function Selector must be at “AUTO” and Valve Power Switch at “ON”.</li><li>(2) Press the red Stop Button to stop blinking.</li><li>(3) Press Start Button for a Semi-automatic cycle.</li></ol>   |



- (4) Watch the display carefully as you index slowly through the stations. Allow about 10 seconds at each station. If a station is suddenly skipped, this will be the shorted station. Continue INDEXING (do NOT use the red Stop Button at this time) through the remaining stations until display shows the time of day. If a station was skipped, the Short Lamp should again be blinking.
- (5) Press the red Stop Button to stop the blinking Short Lamp. Following instructions in Section (I), set watering duration to "00" at the shorted station. Contact your Weather-matic Installer for service.

NOTE: Any unused stations equipped with Pump Protection resistors will cause the Valve Short Lamp to "blink" unless the durations at these unused stations are set to "00". Follow instructions in Section (I).

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#### **WARRANTY**

Each Weather-matic Mark Controller is warranted to be free from defective material and workmanship. For complete details concerning the limits and length of warranty, refer to the Warranty Card enclosed with your Weather-matic controller or call your installer or Weather-matic distributor. Please fill out and return the Warranty Card promptly.

#### **SERVICE**

Weather-matic Mark Controllers are designed to provide years of service. All controllers and other Weather-matic sprinkler system components are backed by Weather-matic's limited warranty. Should you require product service, you are recommended to contact your installer or Weather-matic distributor.



**WEATHER-MATIC DIVISION**

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