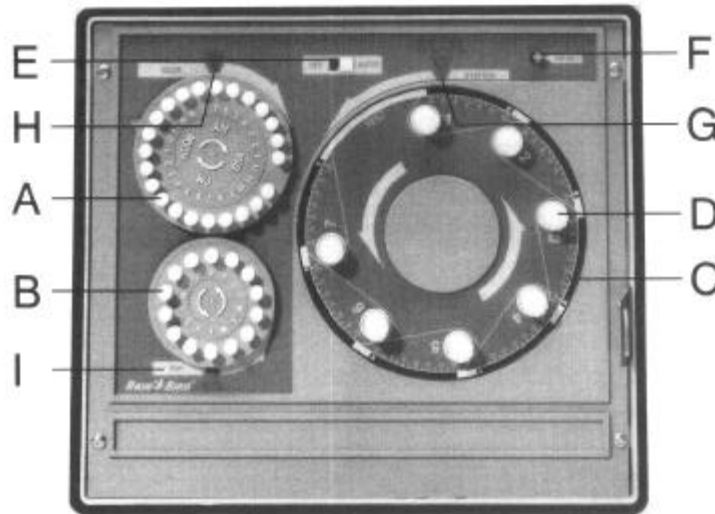


RC-4C
RC-7C
RC-1260C
RC-7A
Instruction
Manual



Figure 1



RC-7A

(The RC-4C and RC-1260C Controllers have similar controls and features.)

DESCRIPTION OF CONTROLS Refer to Figure 1

A. HOUR DIAL with 23 CYCLE START PINS: The HOUR dial contains 23 pins for scheduling automatic "Starts" on any hour (except midnight - which is day changeover time). Embossed characters provide quick identification for each hour, AM or PM, noon and midnight. Captive type pins are designed for simple push-pull operation.

B. DAY DIAL with 14 SCHEDULING PINS: The calendar DAY dial contains 14 captive pins for scheduling irrigation everyday or any day within a two week range. Each pin represents a 24 hour period beginning at midnight. Embossed characters are on the dial, adjacent to each day of the week.

C. STATION SELECTOR/INDICATOR DIAL: The STATION selector/indicator dial contains the timing controls for each of the stations. The dial automatically rotates during a watering cycle with the current station appearing at the top under the station pointer. REST indicates the system is off and no watering is taking place. The dial is also used for manual selection of any station for semi-automatic operation.

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D. STATION TIME CONTROL KNOBS: Individual TIME controls for each station. Timing is adjustable from 3 to 60 minutes (6 to 60 minutes in the RC 1260C) to suit all landscape growth requirements. A small white arrow moves with each knob along the timing scale on the Station dial (C) for visual indication of the time setting. The scale is marked-off in 5 minute graduations and the ratchet action of the knob provides for precision adjustment with each "notch" representing one minute increments. The OFF position eliminates the station from the watering schedule. All omitted stations are automatically "rapid advanced" through, to the next timed station.

E. OPERATIONAL MODE SWITCH: The 2-position MODE switch (E) provides the operating control for the system. AUTO position for automatic irrigation as scheduled and "timed" watering of manually selected station. The OFF position is used for rainy weather shutdown. This position eliminates controller "output" to the system valves *without* interrupting the clock operation.

F. CIRCUIT BREAKER RESET BUTTON: Circuit overload reset button (F). A built-in circuit breaker protects the controller from damage due to current overload. Push to reset after the source of trouble has been remedied.

G. CURRENT STATION INDICATOR: STATION indicator (G) identifies the current position of controller operation.

H. CURRENT TIME INDICATOR: TIME indicator (H) identifies the current time on the controller clock.

I. CURRENT DAY INDICATOR: DAY indicator (I) identifies the current day of the watering schedule.

INSTALLATION

The RC Series controller's cabinet is suitable for wall mounting in sheltered areas. Three mounting holes are provided through the back surface of the cabinet. Before mounting the controller, consideration must be given as to accessibility, electrical power source and connections to the system control valves.

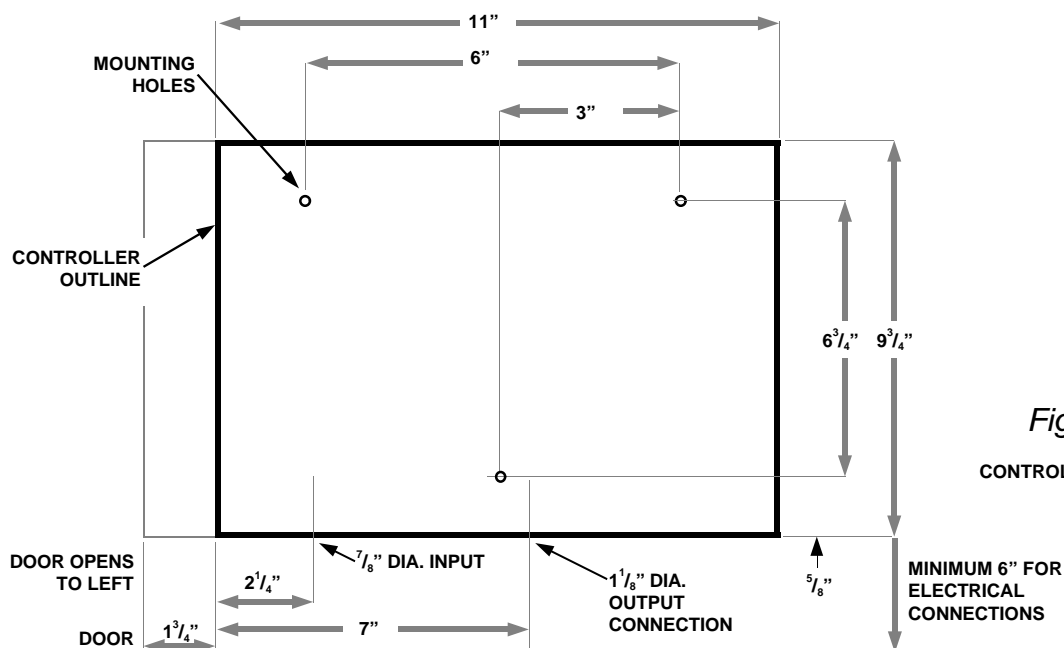


Figure 2
CONTROLLER MOUNTING

MOUNTING

1. Choose a location that provides a minimum clearance of 13" wide x 10" high. Since the electrical connections are provided at the bottom of the cabinet, clearance should be allowed for the conduit connections etc. (Refer to Figure 2.)
2. Remove the 4 panel mounting screws, carefully lift out the panel and disconnect the wire harness at the connectors.
3. Position the cabinet on the wall at the mounting location, and with a pencil, mark the 3 mounting hole locations on the wall. Two vertical holes are provided for mounting to a wall stud.
4. Install the two top fasteners first. (**Note:** Use #10 screws).
5. Install the bottom fastener, and tighten all screws. With the cabinet mounted securely to the wall, proceed with the wiring connections.

ELECTRICAL CONNECTIONS

ALL WIRING MUST BE INSTALLED AND CONNECTED IN ACCORDANCE WITH LOCAL CODES. A basic wiring diagram, with color code identification is provided on the inside surface of the cabinet for easy reference.

Valve Output Wiring

The controller transformer provides 26.5 VAC output for the station valves. The output leads are color coded and stamped with the corresponding station designations. (See Figure 3.)

1. A 1/8" dia. hole is provided in the bottom of the cabinet for connection of a 3/4" conduit fitting.

2. Connect one Lead from EACH valve to the desired STATION OUTPUT lead using wire nuts. On "C" units, connect one Lead from each valve to the desired station output screw on the terminal strip.

NOTE: A maximum of four Rain Bird, 2 watt, solenoid valves may be connected to each station output lead. This applies when the Master Valve circuit is NOT used. Refer to Figure 4 for variations of the station load capacities.

3. Connect the second lead from all valves to the white COMMON output lead. On "C" units, connect the second lead from each valve to a "COMMON" wire and connect that wire to a screw labeled "COM" on the terminal strip. Record the valve locations or landscape zone identification for each station on the label inside the cabinet door.

RC-7A OUTPUT LEAD	COLOR CODE
Station 1.....	Brown
2.....	Red
3.....	Orange
4.....	Yellow
5.....	Green
6.....	Blue
7.....	Violet
Master Valve.....	Black
Valve Common.....	White

Figure 3.
VALVE OUTPUT IDENTIFICATION

NUMBER OF VALVES PER STATION	
TYPE OF MASTER VALVE	2.0 WATT Solenoid
None.....	4
2 Watt Solenoid.....	3

Figure 4.
STATION CAPACITY

Master Valve Wiring

If a Master Valve is to be used, see Figure 4 for station capacity limitations.

1. Connect one lead from a 24 VAC Master Valve to the controller's black Master Valve lead (in "C" models, connect to "MV" screw on the terminal strip).
2. Connect the other Master Valve lead to the controller COMMON (white) along with the valve common leads (in "C" models, connect to "COM" screw).

CAUTION: If a master valve is not being used on the RC-7A, be sure to tape the end of the black Master Valve lead to prevent any possibility of "shorting."

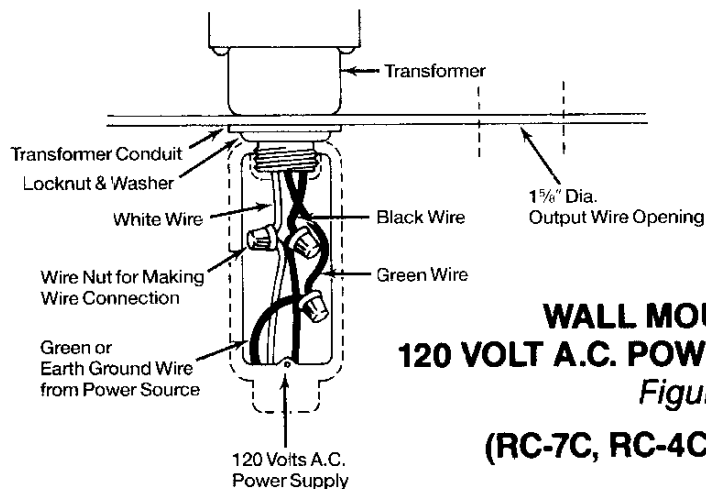
Main Power Wiring (RC-7A)

The 120 V. step-down transformer is mounted at the lower left portion of the controller cabinet.

1. Remove the 3 screws and cover plate at the bottom left side of the cabinet.
2. The 7/8" dia. hole in the bottom of the cabinet is provided for direct input connection with a 1/2" conduit fitting.
3. Connect a 120 Volt-A.C. supply line to the LINE INPUT leads.

Main Power Wiring (RC-7C, RC-4C & RC-1260C)

The 120 VAC step-down transformer is mounted in the lower left hand corner of the controller cabinet. A 1/2"-14 NPSM conduit nipple extends through the cabinet bottom for connection to a conduit housing, junction box, or other approved attachment. Make the electrical connections using wire nuts to connect the transformer leads (white to white and black to black and green to green or earth ground) to the incoming 120 VAC



WALL MOUNTING & 120 VOLT A.C. POWER CONNECTIONS

Figure 5.

(RC-7C, RC-4C & RC-1260C)

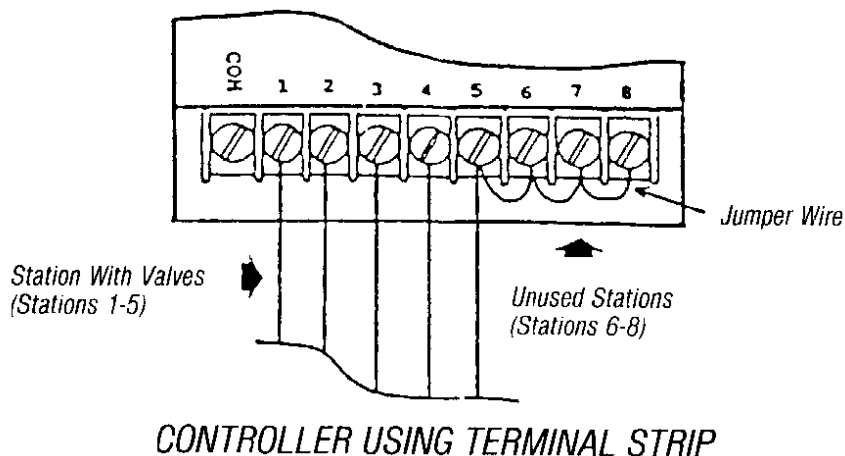
Pump Start Capability

The RC series controller can activate an optional 24 volt AC relay for use as a magnetic starter switch for 117 and 220 volt pump motors. The Rain Bird PMC (**pump motor control**) connects to the controller using the "MASTER VALVE" and "VALVE COMMON" connections (MV and COM). The high voltage power to the pump passes through the high voltage wires and relay in a second compartment in the PMC (see installation instructions with the Rain Bird PMC).

CAUTION:

"Dead-Heading" a pump (running the pump's motor without water flowing through it) may cause pump damage. It may also result in personal injury from hot water spraying from the pump as a result of static water within the pump heating to a temperature where plastic pipe and fittings may melt and discharge the water. ALL CONTROLLERS USING PUMP START RELAYS ON MASTER VALVE/PUMP START CIRCUITS MAY ENCOUNTER THIS PROBLEM. As a safeguard against such an incident the following procedure is highly recommended.

All UNUSED stations on an electromechanical controller must be connected to a station on the controller where a valve is present if a pump start relay is used to start a pump. This installation method eliminates possible pump dead-heading if station timing is inadvertently programmed on a station where a valve is not present. See details below.



Electrical System Checkout

1. Rotate the STATION dial counterclockwise to position REST at the top directly under the Station pointer.
2. Pull all pins on the HOUR and DAY dials to the "out" position.
3. Put the MODE switch in the AUTO position.
4. Turn on the main power at the source.
5. Adjust each station TIME control to the 5 minute mark. See Figure 6.
6. Rotate the STATION dial (counterclockwise) to position Station 1 under the pointer. Watering should commence shortly as the automatic mechanism latches with the Station dial.

The 5-minute interval should provide sufficient time to observe control valve operation. If more time is required, simply adjust the timing knobs as necessary. The controller will advance through each station, in sequence, providing opportunity to observe each circuit for proper operation.

Upon satisfactory checkout of the system, proceed to adjust the controller clock.

SETTING THE CONTROLLER

With the main power ON, proceed to adjust the clock for the correct time and day.

1. Put the MODE switch in the OFF position.
2. Rotate the HOUR dial (clockwise only) to position the current time opposite the TIME pointer at the top of the panel. Observe the dial for the correct AM or PM numerals.

Example: If the correct time is 1:35 PM, position the dial such that the TIME pointer will point midway between the 1 and 2 numerals on the PM side of the dial. If a more precise adjustment is desired, the best procedure would be to push-in the pin corresponding to the upcoming hour (in this example, the 2 PM pin) and *on that hour*, slowly rotate the dial until you hear the "click" of the micro-switch.

3. Proceed to set the present day by rotating the calendar DAY dial to position the correct letter opposite the DAY pointer at the bottom of the dial. (See Figure 5.)

4. Next, rotate the STATION dial in a counterclockwise direction to position REST at the top under the STATION pointer.

This completes the controller clock setting.

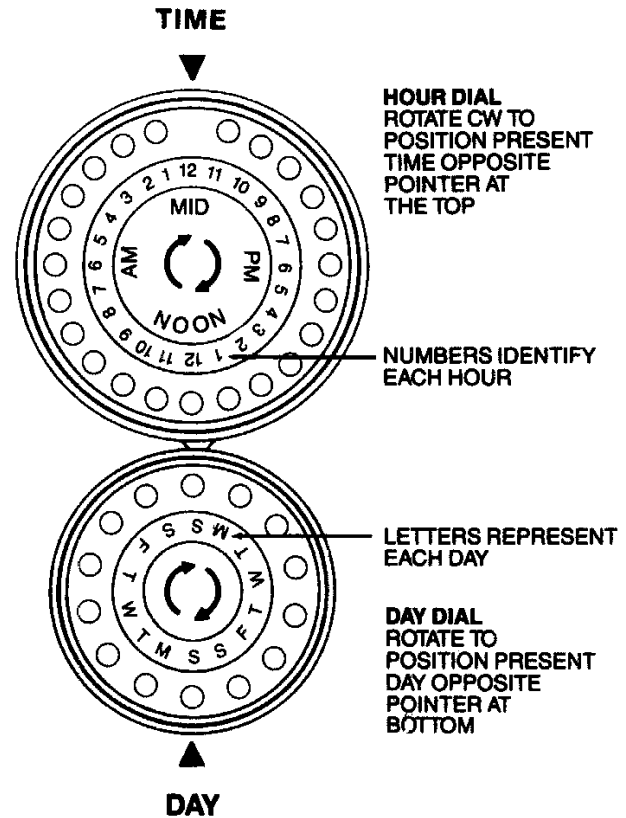


Figure 5
CONTROLLER CLOCK

SCHEDULING AUTOMATIC OPERATION

Before proceeding to set the automatic schedule, be sure the HOUR and DAY dials are adjusted for the correct time and all pins are in the "out" position.

1. Push in the pin(s) corresponding to the day(s) on which watering is desired. Remember, each DAY pin represents a 24 hour period beginning at midnight.
2. Next, select the desired starting time(s) and push in the corresponding pin(s) on the HOUR dial. Multiple "starts" within a given day may be scheduled after completion of the time accumulated by the previous cycle; see **NOTE** following Step #3.
3. The first mark (square dot on the station dial) is the minimum time setting and represents approximately 3 minutes. The small white arrow moves with the knob for visual indication of each setting. (There will be no valve output when the arrow is positioned between "off" and the "square dot") The ratchet notches represent 1 minute increments for precise settings. The OFF position at each timing dial omits the station from the schedule.

NOTE: On the RC-7 and -1260 series, the minimum accumulated cycle time required to *prevent* a second start within a given hour is 20 minutes. Conversely, the maximum accumulated time to *permit* a cycle start on a consecutive hour is 55 minutes. Total cycle time of more than one hour is permissible.

NOTE: It takes about 20 minutes for the hour dial pin that started a watering cycle to move off the cycle-start switch behind the face panel. To make sure the RC-4C will not start another cycle when the combined running time of stations 1 through 4 is less than 20 minutes, the controller will stop at the non-existent station 6 position, and time out 20 minutes before returning to

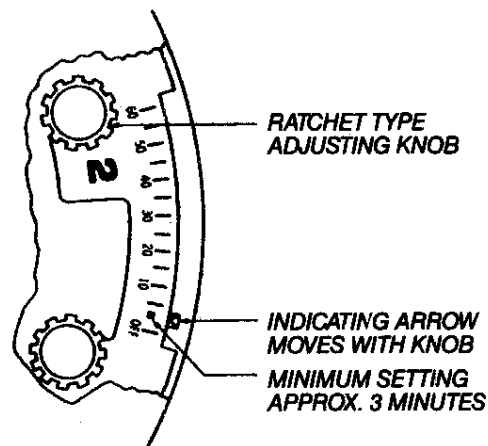


Figure 6
STATION TIME CONTROL

This completes the automatic setting of the controller. Move the MODE switch to the AUTO position. The controller will now automatically control the landscape irrigation according to the schedule.

SEMI-AUTOMATIC OPERATION

The controller may be operated at any time in a semi-automatic mode simply by turning the STATION dial counterclockwise to position the desired station at the top, *just ahead* of the Station pointer. Allow the automatic mechanism to advance into the desired timing zone. The selected station will operate for the time set on the dial, after which, the remaining stations will follow in sequence until the REST position again appears under the Station pointer.

RAIN SHUTDOWN

There may be occasions where it is desired to interrupt all landscape irrigation. Conditions such as rainy weather, system repair, landscape renovation, or other excavation work. The temporary shutdown of the system is accomplished by moving the MODE switch to the OFF position. This eliminates controller output to the valves without interrupting the controller timing circuitry. The controller will not operate either automatically or semi-automatically.

A summary of the operating instructions is provided on the label inside the controller door.

MAINTENANCE

The controller is designed to provide years of trouble-free service. The controller requires no preventative maintenance or lubrication. Should trouble occur, refer to the Troubleshooting chart for possible remedies, or contact your local authorized Rain Bird dealer.

TROUBLESHOOTING CHART

DIFFICULTY	POSSIBLE CAUSE	REMEDY
<i>Clock stopped.</i>	a. Circuit Breaker Tripped	a. Push RESET. If controller stops again, check system circuits to locate trouble
	b. No power to controller.	b. Check line voltage and connections at each end.
<i>DAY and HOUR dials function incorrectly.</i>	a. Clock set for incorrect time. b. Pins incorrectly set.	a. Reset clock for the "present" time. b. Check pin settings and "accumulated cycle time on station dial.
<i>DAY and HOUR dials function, but cycle will not start automatically.</i>	a. MODE switch in wrong position.	a. Move switch to AUTO position.
<i>Controller recycles immediately without stopping in the REST position.</i>	a. Insufficient cycle time allowed. b. Total cycle time coincides with a succeeding START pin.	a. Adjust cycle time for more than 15 minutes. b. Reset the HOUR pins or readjust the accumulated cycle time.
<i>Some stations do not operate.</i>	a. Station time set at OFF. b. Faulty valve wiring.	a. Set TIME control for more than 3 minutes. b. Check connections between controller and valves. Also, check valve actuators.
<i>Station dial does not stop at a "Timed" station</i>	a. Insufficient time set on dial.	a. Adjust the TIME control for more than 3 minutes.

Should trouble be isolated in the controller mechanism, remove the entire panel assembly from the cabinet and return to your local distributor for repair.

HAVE A QUESTION, PROBLEM OR COMMENT?

Our Technical Services toll-free phone number is: 1-800-RAIN-BIRD.



Customer Support Center
6640 S. Bonney Ave. Tucson, AZ 85706
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