

Remote Control Technology

**Controller-Specific Commander & Sidekick
For Rain Bird 5-Pin & 6-Pin Modular Controllers**



FCC REGULATIONS

The user of this remote control device does not need an FCC license.

The Transmitter has been tested and found to comply with FCC Part 95 Subpart E.

The Receiver has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

Canadian Certification #32151021261

NOTE: The range of all radio devices is dependent on local conditions, antenna selection, and antenna location.

WARRANTY

All Remote Control Technology products carry a “ONE YEAR WARRANTY”.

For one year from the date of purchase, Remote Control Technology will repair or replace any of its products or parts to be found defective as to workmanship or materials. This warranty does not extend to damage to a Remote Control Technology product resulting from misuse, neglect or abuse, improper installation or accident.

This warranty extends only to an original user of Remote Control Technology product(s). In no event shall TRC Irrigation Remotes be liable for incidental or consequential damages. All implied warranties are limited in duration to three years following date of purchase. These exclusions or limitations apply only in those states where permitted by law.

IMPORTANT NOTE:

All Rain Bird modular controllers must be properly programmed before any TRC Commander or Sidekick receivers can be used.

For more information, please refer to the Rain Bird installation guide for the particular controller to which the Commander or Sidekick receivers are to be connected.

SIDEKICK

Transmitter

The TRC Sidekick transmitter is the hand-held part of your remote system. Any Rain Bird Modular Controller equipped with a Sidekick Controller-Specific receiver can be operated with this transmitter. The transmitter operates on one 9-volt alkaline replaceable battery.

Note: The battery should be a good quality alkaline or the transmitter may not operate properly.

Receiver

Sidekick Controller-Specific Receivers for Rain Bird

These receivers are compatible with all Rain Bird 5-Pin & 6-Pin Modular Controllers and are capable of operating up to 250 stations* per controller. These portable receivers connect easily with an interface cable that plus into either the 5-Pin or 6-Pin remote port on the controller.

*for more than 89 stations, and ***“Extended Station” Transmitter*** is required

DCI-RB5 Logic Converter

Allows a “6-Pin” receiver to work with a “5-Pin” controller.

Getting to Know the Sidekick Transmitter

The Sidekick FM transmitter is designed to allow the user to operate one valve/station at a time, making it ideal for the irrigation maintenance professional to use for one time maintenance, seasonal start-ups and blowouts. To operate the transmitter the user selects the number of the valve/station using the keypad followed by pressing the “ON” button of the transmitter. The transmitter sends a proprietary PDTFM signal to the Receiver turning “ON” or “OFF” a selected valve as well as the Pump Start/ Master Valve Station of the receiver automatically.

When not in use the transmitter reverts to a standby mode, which is designed for minimal power consumption to extend the life of the battery. Once any key has been pressed, power is automatically restored for ten seconds to allow commands to be sent to the receiver.

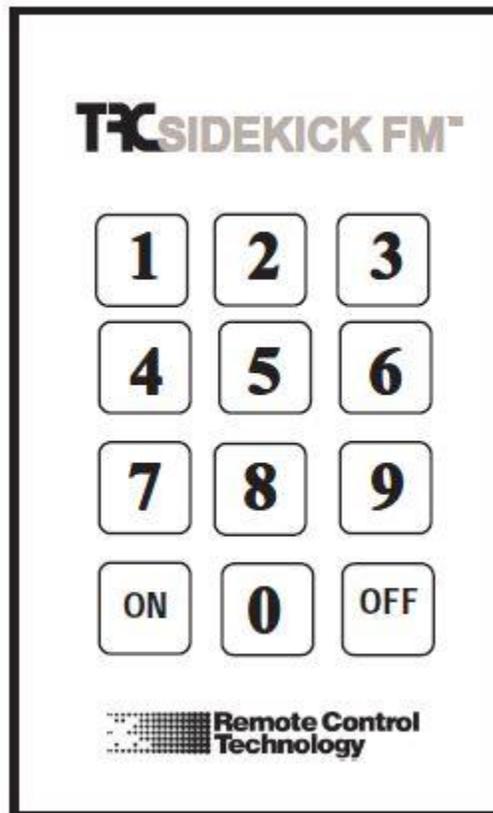
The Transmitter is designed to operate using a 9 VDC Alkaline battery.

NOTE: Batteries such as general-purpose 9 VDC batteries will lower the performance of the transmitter.

The Sidekick Transmitter Keypad

To clearly indicate that a key on the keypad has been pressed, the Sidekick FM transmitter makes an audible beep.

The transmitter will beep once when any Number Key is pressed. When the "ON" or "OFF" key is pressed the transmitter will beep twice. The first beep indicates that the transmission is starting, and the second beep indicates that the transmission has been completed.



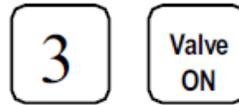
Transmitter Operating Instructions

Valve On/Valve Off:

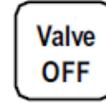
To turn a valve "On" press the desired valve/station number then press the "On" key. Pressing "Off" will turn the last zone off.

Example:

To turn on valve 3:



To turn off valve 3:



Error Tone:

A “squawk” error tone indicates that an incorrect series of keys has been pressed. When the error tone is heard, wait ten seconds and simply restart the series of commands.

Low Battery Tone:

A rapid sequence of beeps after the transmission tone indicates low battery power. Replace with a new 9 VDC alkaline battery

COMMANDER

Transmitter

The TRC Commander transmitter is the hand-held part of your remote system. Any Rain Bird Modular Controller equipped with a Commander Controller-Specific receiver or Permanent Receiver Card can be operated with this transmitter. The transmitter operates on one 9-volt alkaline replaceable battery, which should be a good quality alkaline or the transmitter may not operate properly.

Receivers

Commander Controller-Specific Receivers for Rain Bird

These receivers are compatible with all Rain Bird 5-Pin & 6-Pin Modular Controllers and are capable of operating up to 250 stations* per controller. These portable receivers connect easily with an interface cable that plus into either the 5-Pin or 6-Pin remote port on the controller.

*for more than 89 stations, and **“Extended Station” Transmitter** is required

DCI-RB5 Logic Converter

Allows a “6-Pin” receiver to work with a “5-Pin” controller.

Permanent Receiver Cards for Rain Bird

Install easily and permanently into the controller. Installing Permanent Receiver Cards allows all zones of the controller to be operated. Each Card comes with an external antenna and mounting hardware. Maximum range is achieved by installing the external antenna to the outside of the controller cabinet.

Commander Special Features

- **Multiple Receiver operation from a single Transmitter**
 - Field programmable dipswitches offer 199 unique Receiver numbers
- **Silent Running**
 - Turn off all of the zones from 1 - 7 days
- **Adjustable Time Duration**
 - 2 Minutes to 2 Hours (default 20 minutes)
- **Programmable security codes**
 - 9999 different security group codes
- **Master Valve disable key**
 - Pump Start/Master Valve
- **Audible low power indicator**
 - Field replaceable 9-Volt battery

Getting to Know the Commander Transmitter

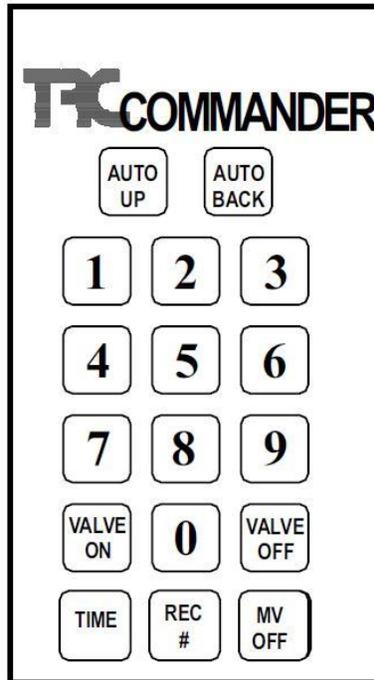
The TRC Commander Transmitter sends a proprietary FM signal to the Commander Receiver(s) turning on or off selected valves. With each valve activation or deactivation, the Pump Start/Master Valve station, when used, is automatically turned on or off unless "MV Off" has been pressed.

The Transmitter is designed for minimal power consumption to extend the life of the battery. The Transmitter power is normally off. Once any key has been pressed, power is automatically turned on for about ten seconds to allow your command sequence to be completed before the Transmitter automatically turns the power off and erases the command sequence from memory.

Transmitter uses one replaceable 9V Alkaline...it is recommended that a good quality alkaline battery such as Duracell or Energizer are used. Please do not use "general purpose", "industrial", carbon zinc or rechargeable batteries.

Commander Transmitter Keypad

The Commander Transmitter keypad has an audible beep to clearly indicate when a key is pressed. The Transmitter will beep once when a Number Key or the Receiver Number Key is pressed. The Transmitter will beep twice, with about two seconds between beeps, after a transmit key is pressed for ("VALVE ON", "VALVE OFF", "AUTO UP", "AUTO BACK", "M-V OFF" or "TIME"). The first beep indicates that the transmission is starting, and the second beep indicates that transmission has been completed.



Commander Transmitter Operating Instructions

Error Tone

You will hear a "squawk" error tone if an incorrect series of keys has been pressed. When the error tone is heard, wait 10 seconds and simply restart the series of commands.

Low Battery Tone

A rapid sequence of beeps after the transmission beep indicates low battery power. **Replace with a new alkaline 9V battery.**

Valve On/Valve Off

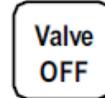
To turn a valve on press the desired zone number then press the "Valve On" key. Pressing "Valve Off" will turn off the last zone activated. When "Valve Off" is pressed by itself the current zone will turn off. To turn that zone back on just press "Valve On". The Transmitter remembers which valve you were testing. Pressing "0", "Valve Off" will turn off all zones.

Example:

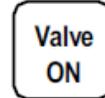
To turn on valve 3:



To turn off valve 3:



Turns zone 3 back on:



Auto Up/Auto Back

These functions allow forward and backward advancement through each station. This will turn on the next sequential station number.

Example:

To operate press:



Time Duration

You can set a time duration anywhere from two minutes to two hours.

Press three digits of time in the following format:

Hour, Tens Minutes, Minutes.

The range of allowed entries for time duration is from two minutes "002" to two hours "200".

Then press the "Time" key, followed by the desired zone # and then "Valve On."

	Hour	Tens	Minutes	
For 2 minutes:	0	0	2	TIME
For 20 minutes:	0	2	0	TIME
For 2 Hours:	2	0	0	TIME

Receiver Number

The TRC Commander Transmitter can operate as many as 199 Permanent Receivers on each group code. To designate Receiver, press a desired Receiver number and "Rec #" key.

Setting to Receiver number 3: 3 REC #

Reprogramming the Commander Transmitter

You must first wait at least 10 seconds after any key has been pressed before reprogramming. The following example reprograms the Transmitter to the factory defaults.

YOU DO NOT NEED TO CHANGE ANYTHING TO MAKE YOUR UNITS OPERATE!

Step 1: 8 8 5 2 1 4 1 REC #

Step 2: 0 0 0 1 REC #

Step 3: 1 REC #

Step 1 clears the Transmitter's memory.

Step 2 sets the Group Code to "0001".

Step 3 sets the Receiver Number to "1".

The units come from the factory set to communicate with each other on Group Code #1, and Receiver #1.

YOU DO NOT NEED TO CHANGE ANYTHING TO MAKE YOUR UNITS OPERATE!

You only need to reprogram your Transmitter if you change the dipswitch settings on the Receiver. If you choose to do so, you will need to follow the steps above, making sure you change the Group Code and Receiver Number (steps 2 and 3) to match that of the Receivers, as explained on the next page.

If the battery is removed for more than 2 minutes (or if it has died) you only need to reprogram the Transmitter if you have previously changed your Group Code or Receiver Number settings from the factory defaults. The Transmitter will remember the Group Code and Receiver Number for approximately 2 minutes with battery removed for replacement.

Setting the Receiver's DIP Switches

YOU DO NOT NEED TO CHANGE ANYTHING TO MAKE YOUR UNITS OPERATE!

The units come from the factory set on Group Code # 1, Receiver # 1.

If you change the dipswitches, you must reprogram your transmitter to the same settings, as explained on the previous page.

Should you be using multiple receivers within close proximity of each other, or if you are getting interference from someone else's remote, you may need to change your Group Code # or Receiver # DIP switch settings to prevent unwanted interference as follows:

To Change the Receiver #: Remove the four Phillips head screws and separate the Receiver case to expose the Receiver number dipswitch set. Look on the back of the Receiver board; you will see three boxes of dipswitches as shown in the photo (Example 1). The dipswitches are exposed on the circuit board on Permanent Receiver Cards (Example 2). The Receiver # switch set is the box on the far right. ***The switches are read from right to left,*** (see below) and are grouped in sets of four. Adding the numbers of the depressed switches together in each set of four will give you the total for that digit.

To Change the Group Code #: The Group Code switch set is the middle and left-hand boxes. ***These switches also read from right to left,*** starting with the middle box and working toward the left (see below) and are also grouped in sets of four. Adding the numbers of the depressed switches together in each set of four will give you the total for that digit.

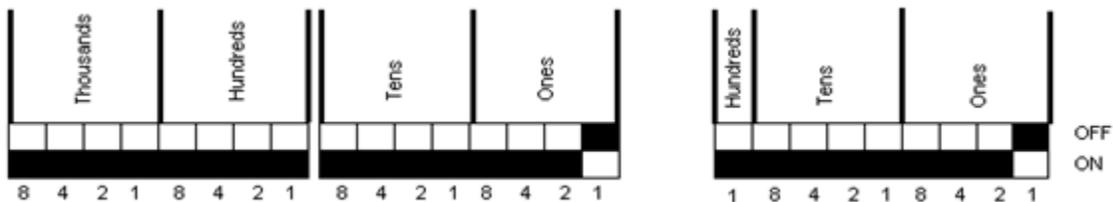
DIP Switch Settings



Per the photo above, this is the factory default setting: Group Code is set to “1” via the middle 8-Position DIP Switch & the Receiver Code is set to “1” via the right hand 9-Position DIP Switch.

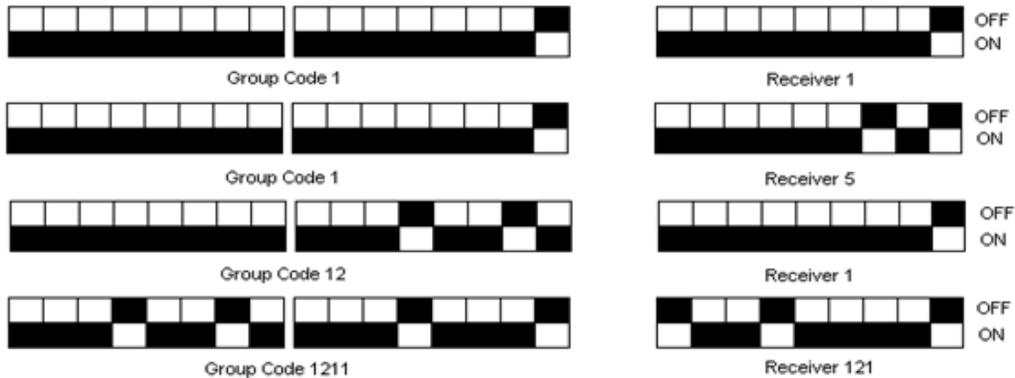
Setting the Receiver Card DIP Switches

The DIP switches are read from left to right as shown below. The single bank of 9 switches (on the left) are the Receiver Code switches. The two banks of 8 switches are the Group Code switches. Adding the numbers of the switches that are set to “ON” will give you the settings for that receiver.



NOTE: Factory default settings are Receiver Code = 1 / Group Code = 1

Here are some other examples of DIP switch settings:



Additional Coding Information:

Each receiver card uses two unique codes; a Group Code and a Receiver Code (using Binary Coded Decimal or BCD).

There can be up to 9,999 receiver groups & there can be up to 199 receivers within each group.

For example:

An application requires 3 receiver cards to be used in three different locations on a property. The user decides to use a unique group code of 2195 so that no one can access a receiver without knowing the group code. In this scenario the receivers would be programmed as follows:

- Receiver A: Group Code = 2195 / Receiver Code = 1
- Receiver B: Group Code = 2195 / Receiver Code = 2
- Receiver C: Group Code = 2195 / Receiver Code = 3

Using the same application, only the user would like to have a different employee operate each one of the three receiver cards. The user also wants to restrict access so that each employee can only operate the receiver card which they were assigned. In this scenario the user would assign each receiver a unique group code and leave the receiver code set for the default setting. The receivers would be programmed as follows:

- Receiver A: Group Code = 2195 / Receiver Code = 1
- Receiver B: Group Code = 3215 / Receiver Code = 1
- Receiver C: Group Code = 6492 / Receiver Code = 1

Installing Sidekick or Commander Receivers for Rain Bird Modular Controllers

Description

The Sidekick & Commander Controller-Specific Receivers for Rain Bird Modular controllers consist of three components:

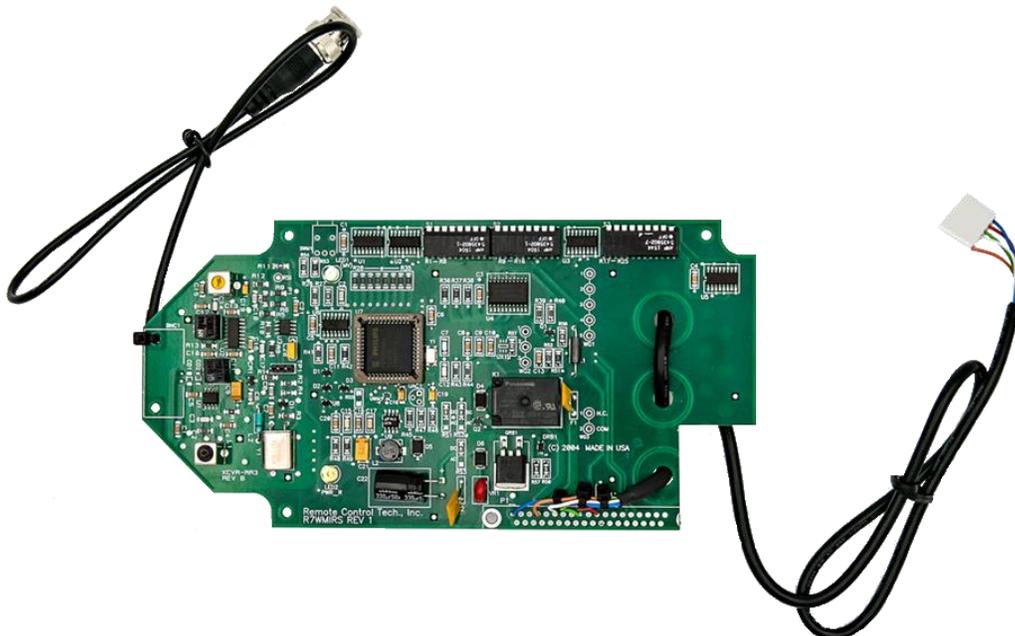
- Transmitter
- Receiver
- Interface Cable (separate for 6-Pin receivers; integrated on 5-Pin receivers)

For 6-Pin receivers, the interface cable and the receiver are the only components that require installation. Once the interface cable is installed, it becomes a permanent access point for the receiver. To use the Sidekick or Commander receiver on more than one controller simply install another interface cable in the other controller(s).

For 5-Pin receivers, the interface cable is permanently integrated onto the receiver cable.

NOTE: Best practice suggests powering off the controller **BEFORE** connecting the receiver to the remote port. Once the receiver is connected, power can be restored to the controller.

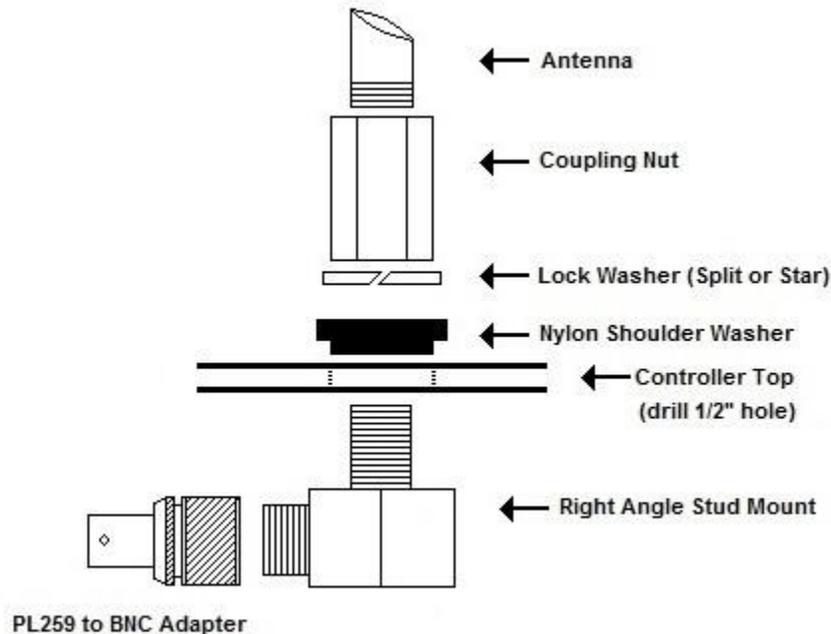
Installing (Commander) Permanent Receiver Cards for Rain Bird Modular Controllers



Receiver Card Installation Instructions:

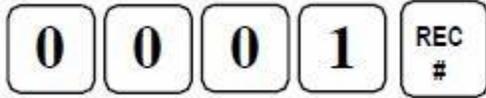
1. Remove power from controller
2. Referencing the photo on page 15, orient the receiver card on the inside of the controller door
3. Remove paper backing from the four (4) sticky-back plastic standoffs
4. Mount the receiver card to the inside of the controller door by pressing gently on all four standoffs
5. Group Code and Receiver Code are set via DIP switch settings...see below for more information
6. Install "Top Mount Antenna Kit" (see diagram below)
7. Connect the tuned antenna (included) to the coupling nut on the top side of the controller enclosure
8. Connect the receiver card antenna cable to top mount kit BNC connector
9. Connect the receiver card interface cable to the controller remote port (currently 6-Pin only)
10. Re-apply power to the controller

Top Mount Antenna Kit Installation Diagram:



Addressing a receiver card with a Commander Transmitter

To change the Group Code, press:

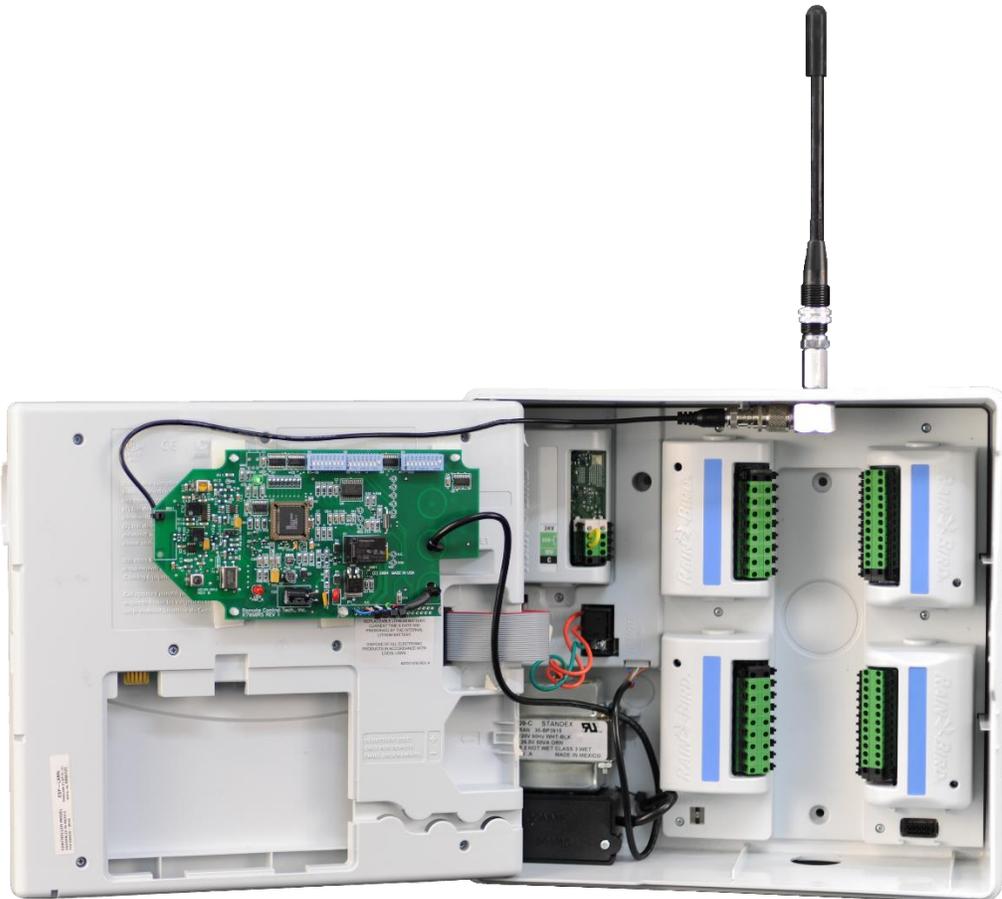


(or whatever the four digit code is for that particular group)

To change the Receiver Code, press:



(or whatever the [up to three digit] code is for that particular receiver)



DCI-RB5 Installation Instructions:



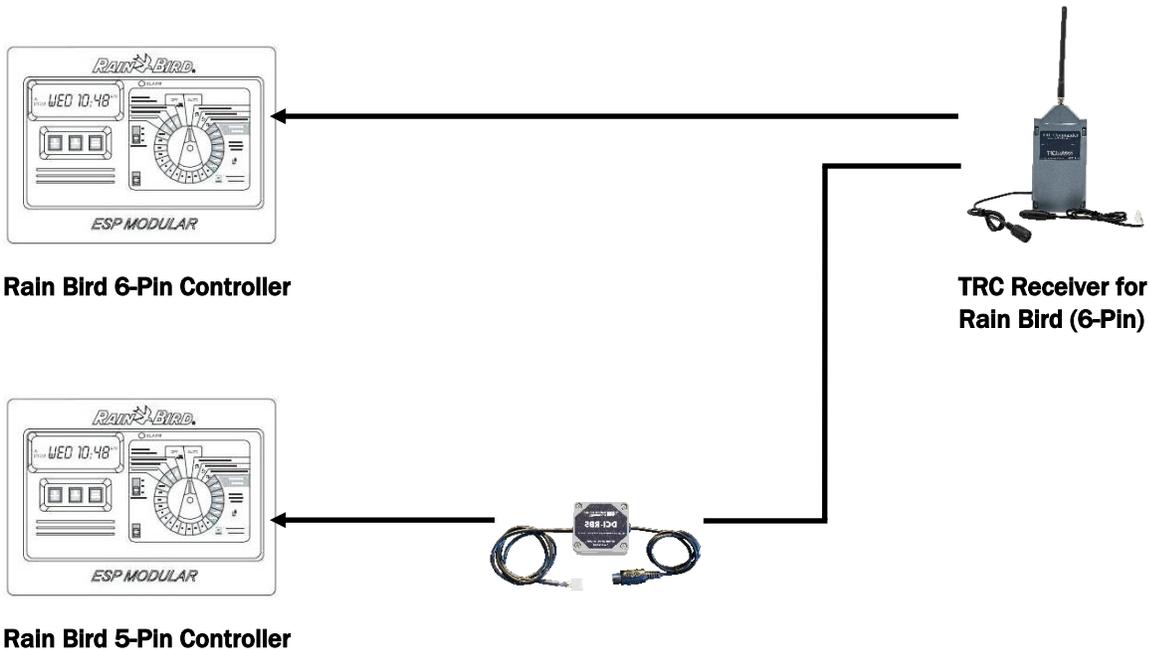
1.  Remove power from Rain Bird Modular controller
2. Connect one end (white 5-pin connector) of DCI-RB5 to remote port (accessory port) on Rain Bird Modular controller

NOTE: For use with Rain Bird Modular Controllers with a 5-pin remote port *ONLY!*

3. Connect other end (round 5-pin connector) of DCI-RB5 to TRC Controller-Specific receiver (Sidekick or Commander) for Rain Bird 6-Pin Modular Controllers
4. Re-apply power to Rain Bird Modular controller
5. Please verify that the red "Power" LED is lit on the TRC receiver (Sidekick or Commander)
6. Begin remote controller station activation from the TRC handheld transmitter (Sidekick or Commander)

NOTE: Rain Bird controllers only allow for one station to be active at a time...multiple station activation functionality is not available

7.  When finished, remove power from Rain Bird Modular controller ***BEFORE*** disconnecting the DCI-RB5 from the controller remote port (accessory port)



Trouble Shooting Chart

Use the following to determine if your problem can be corrected in the field. If you have a problem that cannot be fixed in the field:

- Call Remote Control Technology Customer Service number **(866) 701-1146** and
- You must obtain a Return Material Authorization **RMA #** prior to sending any unit in for repair.

Fault Indication & Correction

Transmitter “squawks” when button is press: An improper key sequence has been entered. Press "0" then "Valve Off" and then continue with a proper key sequence.

Rapid beeps from transmitter or no sound: An audible rapid sequence of beeps after transmission indicates low battery power. Change the battery (must be alkaline).

Receiver fails to respond, but the power light is on: Check if the Receiver number was inadvertently changed (Commander ONLY). Reprogram the Commander transmitter codes to match the Receiver codes (Press "1", "REC #"). Check the Group Code and Receiver Code dipswitches on the Receiver. Reprogram the Transmitter to match the Receiver codes.

Receiver's "Valve On" indicator lights during initial test, but no valve or wrong valve comes on: Use an ohmmeter to check that your connector's wire assignment matches your controller's valve assignment.

Receiver turns off when one station is activated: Check solenoid. Current drain may be more than 3 amps and is tripping the resetting fuse.

Limited Range:

- Ensure that the antennas are firmly attached to the Receiver and Transmitter.
- Ensure that the antenna is clear from obstructions. The three feet immediately surrounding the antenna are the most crucial and should be kept clear of obstructions, power lines, or electrical conduits, electric motors etc.
- Keep the antenna as high as possible on the controller and avoid situations where the antenna can be shadowed by buildings or large metal structures.
- Ensure that the receiver's antenna is as far away from electric motors, V.F.D.'s and overhead powerlines as this type of equipment causes interference.

WARRANTY

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This warranty extends only to an original user of Remote Control Technology product(s). In no event shall Remote Control Technology be liable for incidental or consequential damages. All implied warranties are limited in duration to three years following date of purchase. These exclusions or limitations apply only in those states where permitted by law.

NOTES:

Other reliable products from Remote Control Technology



Stationary Solutions

Ranging from Short to Long Range Wireless Remote Control Systems. Learn how our solutions can help your company save time and money.

Handheld Solutions

Remote Control Technology has designed and manufactured custom wireless applications for a number of Fortune 500 companies.

Irrigation Control

Since 1982, Remote Control Technology has taken the lead in RF radio frequency wireless remote controls for irrigation controllers.

At Remote Control Technology, we are committed to quality and service. With nearly 40 years of experience, we manufacture and sell the highest quality systems in the industry.