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Quick Guide

How to program your Perfect Rain controller

Thank you for purchasing the perfect rain irrigation boom and controller. The following will take you through a brief tutorial of the controller. If you have any questions after reading this resource please refer to the video on our web site or call the office at 1-800-932-9811 to speak with a Zwart Systems technician.

Start up

Plug in your controller. You should see a screen that show a minimum and a maximum speed as well as a motor or (jog speed). When setting these you are setting the parameters for future screens . These may be changed at any time but that may affect other features such as the Smart step watering.. Along the left side of the screen you will see tabs that will get you into different screens. Please go to the **set clock** screen.

Setting the clock

This is fairly straight forward. Adjust the time, hour and minute. Should the power go out, all your settings will stay programmed. The clock, however, will come back on at the time that it was before the power went out. For example, if it is 9:00 am and the power goes out for 10 min and comes back on again the clock on your controller will still say 9:00 am and will be running 10 minutes behind the actual time until you update it. The program can be resumed from where it stopped.

Water schedule

On this screen you will notice **cycle A** and **cycle B**. These two cycles represent two different start times in the day. You will select a day of the week located along the left side of the screen, for example, *Monday*. Now program cycle A for a start time of 5:00am and B for a start time for 11:00am. This will water every zone that you program at 5am and 11am. If this is what you would like, hit **enable**. Now Monday is set. You will also notice a **Rept** tab. This is meant for those growers that are propagating. Touch the tab and select how many minutes you would like between cycles and how many times you would like it to repeat. This will require a calculation to match the repeats and the number of cycles to be completed in a certain amount of time. Select the A program for daytime misting and the B cycle for night time misting.

Zone setup.

Some terminology first

A *zone* is the distance between two magnets.

A *crop* can be a specific type of plant, sticking or planting date, or even a pot size. Whatever terminology your farm uses is what you should use when naming a crop.

On the initial or home- screen you will notice a **zone + and -** and it probably says 64 zones. Touch the minus button and hold for 15 seconds until it starts to count down to fewer zones. This 15 second delay only happens on initial startup. Now it should adjust quickly. Choose how many zones you intend to use. Now press the **zone setup**. Now you will see two lines of numbered circles 1-8. You will also see a **no crop** tap as well as a **crop tab**. You will also see a **crop edit** tab below each set of numbers. All of this is in the box marked **zone one**. Zone one is the area from the booms home position to the spot of the first magnet. It is important to know the way that the boom counts magnets. If you put out 5 magnets, the boom will count 1-5 on the forward motion and will count them backwards in the reverse motion from 5-1. Touch **crop edit** on the top row of the eight circles. Touch the **clear** button then type in the crop name that you want in the first zone. Now select the speed you that you would the boom to travel over that zone at by touching the **speed %** tab and holding it while sliding to the left or right.. Next ,when you wired up the controller, you tied the solenoid valves in to the terminal strip that corresponds with the 1-8 circles. Select the valve(s) you would like to run when the boom is moving forward by touching the circles. When touched they will highlight indicating that they are enabled. Now touch **return** and select the **crop edit** button for the return motion of the boom. Leave the crop name intact and select the valve(s) you would like to have on when the boom is traveling home. You can also select a different speed on the reverse travel. Now touch **return**. You have just set up zone one. You can now repeat the process for zone 2 and so on.

Now that those zones are set and the crops are named, you can program even faster. By touching the **crop name** in the zone programming screen you will see 20 different crops revealed. Once they are all named and programmed in the way you would like all 20 crops to be watered, programming becomes much easier. In each zone, simply touch the **crop tab** to view all 20 crops and select the crop that you would like for the zone that you are programming and your settings are already made. Go ahead, give it a try!

In that zone programming home screen you, selected how many zones you were going to have. In the **crop edit** screen only that number of zones will be available to be programmed. Change the amount of zones selected and you will see your new number of zones in this menu.

The **no crop** tab simply wipes out any command for that zone. The boom will only travel over that area at the jog speed until it sees the next magnet and the next set of commands.

****remember ,by selecting **no crop** you are saying that there is no crop across the *entire* greenhouse in that zone. Nothing will be watered.

Smart Step Watering

When you programmed the zones, you probably noticed the **SSW** tab. This is for use in conjunction with a photo eye and module option provided by you supplier. By pressing this tab you will notice that the speed is now changed to a time. This is the time that the boom will rest over an area and water before moving on to the next area. For example, if you have 13" pots spaced every 18" the boom will move to the center of the 13" pot, then water for the specified time before moving on to the next pot that the photo eye sees . Set up the next zone if your pot size changes and the watering time can be different than the last.

****please note that this style of watering requires high flows. You may have to water only one side of the boom on the forward motion and the other on the return to maintain pressure and volume.

Debug

This screen is a screen to double check if everything on the boom works. It is meant to trouble shoot problems quickly without taking everything apart right away.

Let's get to work!

You have now programmed the controller and are ready to get moving. Touch the **exit** tab on the bottom left hand corner of the screen. The controller will take a few moments while it loads all the settings that you just changed. When the controller is done you will see a **manual** watering screen. In this screen you can move the boom forward or reverse as well as turn valves off and on while walking with the boom. This screen is particularly useful when applying plant growth regulators or touching up the crop. Now touch the **advanced** tab on the lower right hand corner.

Advanced

This is the screen that your boom should be on 90% of the time. If you would like to initiate a manual irrigation cycle simple touch the **water all** tab on the top center of the screen. If there is a particular crop you would like to water touch the **crop tab** on the top of the screen and select a crop you would like to water. Set the amount of **passes** you would like to water and hit the **selected** button. The boom will then move out to water just the crop that you selected for the amount of times you requested and then finish at the home position when completed.

On this screen you will also see an overview of where the boom is at as well as how many passes it has completed.

To return to the previous **manual** screen simply touch the logo on the top and you will be back in manual mode.

To go back and reprogram the zones touch the **setup** button. (*pressing this button also stops the boom when in motion!*)

On the **set-up** screen press the numbers 9876 and then press **enter** NOT **exit**. At this point you should be back at the original set up screen.

Foot notes.

Updates

This controller is made in such a way that if a program update is available, it can be uploaded into this controller to add the new logic. Updating may change some of the settings.

Wireless

Your controller is designed to accept a wireless chip. Zwart Systems is currently working on a wireless technology that will integrate your environment control computers with an iPad, iPhone or Android technology providing the portal into your booms. This technology will be available by summer 2011.

Thanks again for purchasing this product. Look for other quality products manufactured by Zwart Systems on our web site. www.zwartsystems.ca