

Activators

The DSC can test activators to determine if they are properly wired and that they are correctly located in the aquatic playground.

Wired Activators

Each activator is wired to its own terminal location. This location is associated with one or more water features as described in your event table and electrical drawings.

Starting on the Main Screen, press [SETUP] [3] [4]. This will display the Input/Output Status screen. The terminal status is displayed for the Input and Output Modules. The input modules are labeled as DCI in the Type column.

Use the [UP ARROW] and [DOWN ARROW] keys to display the input module you wish to test. At this point have someone press the activator while watching for a ■ to be displayed corresponding to the terminal of the activator that has been pressed.

Note: *If the terminal displayed is not correct, the activator wiring is connected to the wrong terminal. Check your electrical drawings and site plan and make any necessary corrections.*

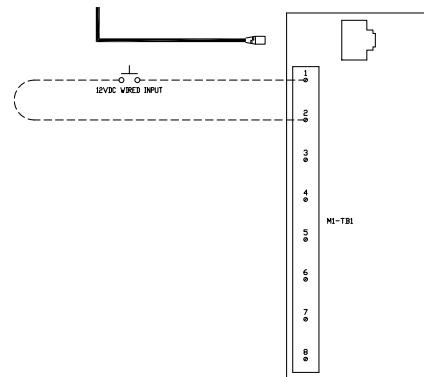
Wireless Activators

Each activator sends its own address comprising of a group (A,B,C, or D) and a code (1 thru 8). This address is associated with one or more water features as described in your event table and electrical drawings.

Starting on the Main Screen, press [SETUP] [3] [3] [1]. This will display the Recent Transmits screen. The most recently activated transmitters' address (Group and Code) is displayed on line 1 with the time the transmission occurred. The nine previous transmissions are displayed as well on the following lines 2 through 10. At this point have someone press the activator while watching for the transmitters address and transmission time to be displayed on line 1.

Note: *If the address displayed is not correct, it is possible that the activator was installed in the wrong location. At this point the activator can be moved or the events using this activator can be modified.*

Input/Output	Status
ID Type	12345678
01 DCI:	00000000
02 ACO:	00000000
03 ACO:	00000000




Recent	Transmits
ID	Time
01 A5	11:37 AM
02 A1	11:32 AM
03 A3	11:21 AM
04 A3	11:19 AM
05 A2	11:03 AM
06 A1	10:57 AM

Test Outputs

You can bypass both the operating hours and the events to force the outputs of the DSC on in order to verify that the water effect solenoid valves are working properly.

Each activator is wired to its own terminal location. This location is associated with one or more water features as described in your event table and electrical drawings.

Starting on the Main Screen, press [SETUP] [3] [4]. This will display the Input/Output Status screen. The terminal status is displayed for the Input and Output Modules. The output modules are labeled as ACO in the Type column. Use the [UP ARROW] and [DOWN ARROW] keys to select the output module you wish to test.



Input/Output Status			
Δ	01	DCI:	00000000
42002		ACO:	00000000
7	03	ACO:	00000000

Using the [LEFT ARROW] and [RIGHT ARROW] keys scroll to the terminal you want to test. Once the cursor is on the desired terminal press the [SET|CLEAR] key. This will display a indicating that the output has been turned on. The corresponding output indicator on the selected module will light. The selected output now has power and the associated water feature should be running. You can move the cursor to the next terminal and press the [SET|CLEAR] key again to turn the output on. To turn the output off, position the cursor on the desired output and press the [SET|CLEAR] key.

Continue to test the outputs associated with your aquatic playground.

Example: How to turn on output terminal 2 on module 1.

Starting on the Main Screen, press the following keys:

[SETUP] [2] [2] [1] [RIGHT ARROW] [RIGHT ARROW] [SET|CLEAR]

To turn the output off press the following keys:

[LEFT ARROW] [SET|CLEAR]

Or press [ESC | Back] to turn off all outputs and return to the System Tests menu.

Note: *If you turn on an output and the wrong water feature turns on, the solenoid valve wiring is connected to the wrong terminal. Check your electrical drawings and site plan and make any necessary corrections.*

Checking Solenoid Valves

If aquatic play components are not working, it may be necessary to check that solenoid valves are functioning properly.

If a water feature does not turn on and it has been verified that 24VAC power is present at the solenoid valve, there may be too much back pressure on the valve. Check the system pressure gauge. Our systems are designed for a maximum of 35 psi.

If a water feature does not turn off in the absence of 24VAC power to the solenoid valve, the solenoid valve may be set on a manual position, or debris may be present inside the valve.

If the solenoid valves were supplied by Fountain People, Inc. and were manufactured by Granzow, they can be easily serviced. Simply remove the four bolts, pull the top off then remove the diaphragm. There are four small ports, two on the body with o-rings and two matching on the top cover. Note arrows on the photos at bottom. Make certain that these ports are clear of debris and that the o-rings are undamaged. Rinse the inside of the valve body and top cover then reassemble.



Aquatic Playground

This section covers a typical aquatic playground layout including aquatic play elements, the Play Scenario™ and how it relates to the aquatic playground and the events that instruct the water features how to operate.

What is an Aquatic Playground? 20-23

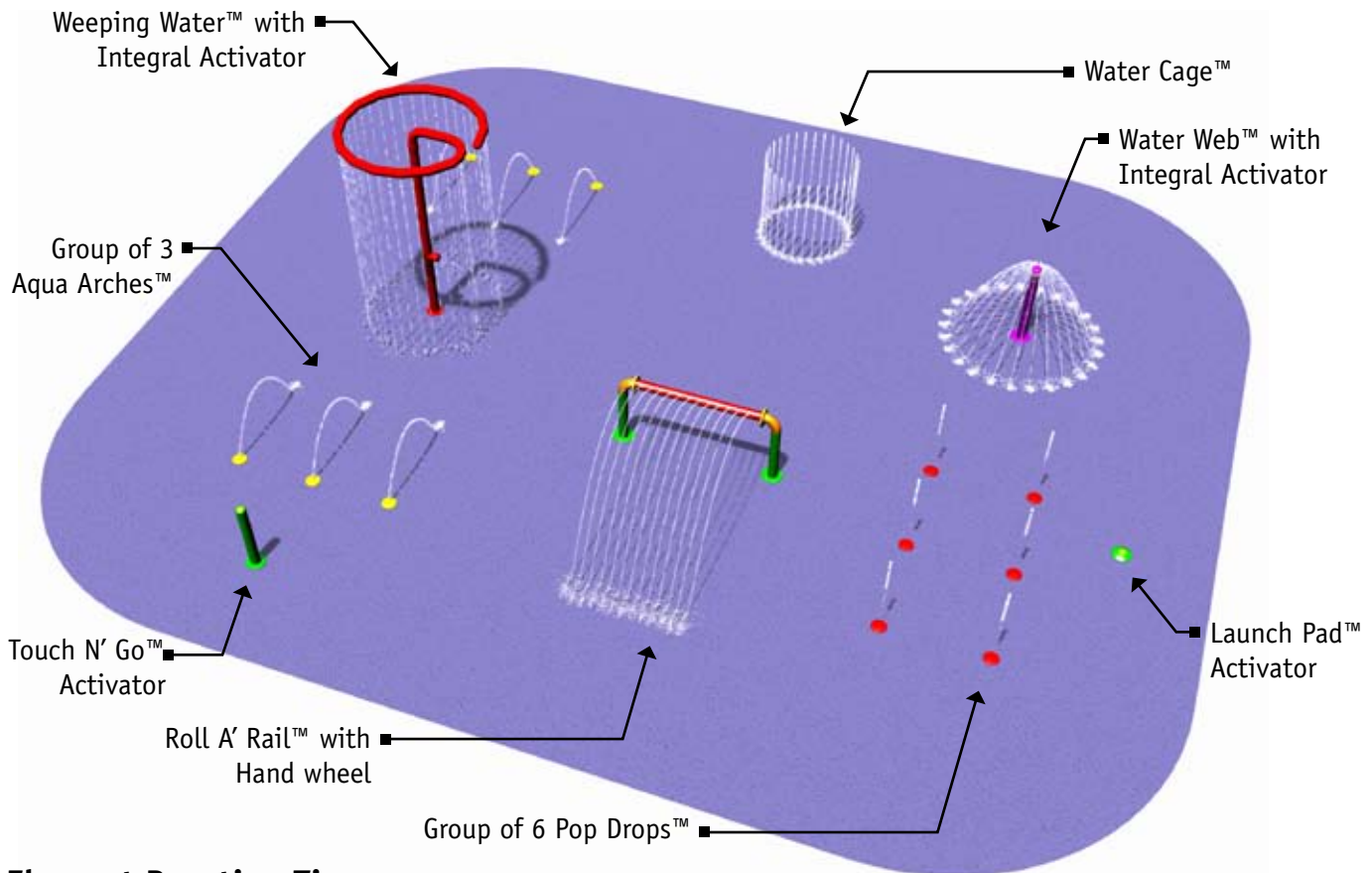
Typical Layout	21
What is the Play Scenario?	22
What are Events?	23

Modifying Events 24-26

Select an Event	24
Event Settings	25
Save Changes	26

Typical Layout

This is general information concerning the operating characteristics of different types of water features. Knowing these characteristics will help when setting up and modifying the events.



Element Reaction Times

Larger elements like the Roll-A-Rail™ or Weeping Water™ are typically controlled by a 1½" solenoid valve which will take approximately 15 to 30 seconds to turn on or turn off. Since these water features typically drain down when not operating they can take up to a minute to fill back up. Due to the slow reaction time, larger water features such as these work well with duration and cycled events where the solenoid valves are changed every few minutes.

In-ground water features such as Aqua Arches™ are typically controlled with a 1" solenoid valve and will take approximately 5 to 10 seconds to turn on or turn off. Water features like these, when grouped together, work well with defined and random events where the solenoid valves are changed every 10 to 20 seconds.

Pop Drops™ are programmed for fast action solenoid valves and can turn on or turn off in as little as ½ second. A ½ second pop on followed by a 1 to 2 second off time creates an interesting globule of water. Pop Drops are ideal for defined and random events where the solenoid valves are cycled every ½ second or so. This creates a very lively water feature.

What is the Play Scenario™ ?

Contains all the events, sequences, and daily operating hours used to control an aquatic playground's behavior.

The DSC controller is shipped preprogrammed from the factory. During the design phase of each aquatic playground a Play Scenario is written that describes how the water features will behave. This Play Scenario is then organized into an event table. The event table lists how the water features are grouped, how the water features are activated, and how the water features will behave when they are activated. Finally, a factory programmer sets up a DSC controller using the event table designed for the aquatic playground.

An aquatic playground may have as few as one event or as many of 60. Below is a sample Play Scenario as well as an Event Table that it was based on.

Sample Play Scenario

A Weeping Water™ is activated by an integral activator. When activated it will turn on for three minutes. See event 6 below.

A group of 6 Pop Drops™ are activated by a Launch Pad™ near the water features. When activated they will sequence quickly, changing every 1/2 second, for a 2 minute duration. See event 3 below.

A Water Cage™ and Water Web™ are activated by a Launch Pad™ near the water features. When activated the Water Cage™ will sequence on and off for 45 seconds. See event 1 below. The Water Web™ will cycle on for 7 seconds and off for 3 seconds, the cycle will repeat for 45 seconds. See event 2 below

Project	WS115 Fantasy Island Park									
Entered Project										
Entered Time										
Entered Date	1/29/2008									
Programmer	Mr. Rourke									
Play Senario										
		Activation Type (Input)			Output	Operation	Event	Seq	Time	Cycle
Element	Event	Wired	Wireless	Other		Time	Type	No.	On	On
Weeping Water	1	011			021	Park Hours	Duration		4min	
Roll-A-Rail	1	011			022	Park Hours	Duration		4min	
Water Web	2	011			023	Park Hours	Cycled	1	3min	15 sec
Water Cage	2	011			024	Park Hours	Cycled	1	3min	5 sec
Aqua Arch	3		A1		025	Park Hours	Random	2	2min	
Aqua Arch	3		A1		026	Park Hours	Random	2	2min	
Aqua Arch	3		A1		027	Park Hours	Random	2	2min	
Aqua Arch	3		A1		028	Park Hours	Random	2	2min	
Aqua Arch	3		A1		031	Park Hours	Random	2	2min	
Aqua Arch	3		A1		032	Park Hours	Random	2	2min	
Pop Drops	4		A1		033	Park Hours	Defined	3	1min	
Pop Drops	4		A1		034	Park Hours	Defined	3	1min	
Pop Drops	4		A1		035	Park Hours	Defined	3	1min	
Pop Drops	4		A1		036	Park Hours	Defined	3	1min	
Pop Drops	4		A1		037	Park Hours	Defined	3	1min	
Pop Drops	4		A1		038	Park Hours	Defined	3	1min	
Morning Prime	5			Park Hours	021-038	Park Hours	Defined	4	3min	

What are Events?

An event's function is responsible for instructing the DSC how the water features will operate when they are activated. The event itself is responsible for linking all the activators to the functions of the water features.

Duration

When activated, a duration event will turn on one or more water features for a set period of time (duration). When the duration has expired the water features will be turned off until the event is activated again. This is perfect for larger water features which typically use slower valves to control the water flow to the effect and can generally entertain a larger group of people.

Cycled

When activated, a cycled event will turn on one or more water features, in unison, for a specified time then turn off the outputs, in unison, for a specified time. This cycle will continue to repeat until the event duration has expired. When the duration has expired the assigned water features will be turned off, regardless of where the event is in the cycle, until the event is activated again. This is useful for a wide range of effects.

Defined

When activated, this event will step through a defined sequence. Turning water features on and off based on the patterns defined in the sequence. The sequence has a duration separate from the event duration. The sequence duration determines the length of the sequence within the event. The sequence will repeat if the sequence duration is less than the event duration. When the event duration has expired the assigned water features will be turned off, regardless of where the event is in the sequence, until the event is activated again. This is useful for faster acting water features.

Random

When activated, this event will randomly turn on the assigned water features for a random period of time. The event will then turn on a new set of randomly selected water features for a random period of time. This will continue until the event duration has expired. When the duration has expired all of the assigned water features will be turned off until the event is activated again. This is useful for faster acting water features.

Cue

When activated, a cue event will activate one or more events. When the maximum duration of the selected events for cue's step has expired the cue will advance to the next step and activate those events. This will continue until the cue's duration has expired. If the cue finishes the last step prior to the end of the duration the cue will start over with the first step and repeat until the duration has expired. When the duration has expired the assigned events will be turned off, along with the individual events' water features, regardless of where the event is in the cue, until the event is activated again. This is a very powerful event, and offers a vast capability.

Select Event

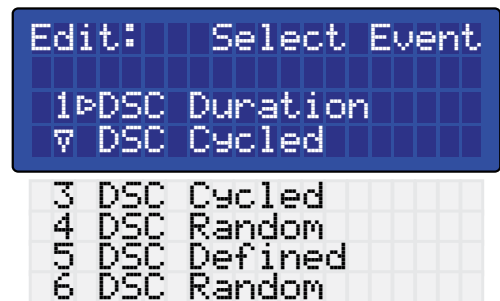
As mentioned previously, the DSC controller is shipped from the factory preprogrammed with the events defined by the Play Scenario™. These Events can be modified; however, we strongly suggest calling the factory before making any significant changes. We maintain records for every aquatic playground so that we may be of assistance if needed.

To display a list of the events stored in your DSC perform the following steps.

Starting on the Main Screen, press [SETUP] [1] [2]. This will display the Edit Event Selection List screen and place the cursor on the first event.

Use the [UP ARROW] and [DOWN ARROW] keys to scroll through the list of events. Once the event you wish to edit is next to the right arrow on the display, press the [RIGHT ARROW] or [ENTER] key to select the event. This will take you the Edit Event screen. You can also use the number keys to quickly scroll through the event list.

When adding a new event, the DSC automatically assigns that event to the next available event number.



Event Settings

Basically, the controller gives the commands that cause the aquatic play equipment to turn on and off. Each Event will require the following settings to be entered.

Type is:

Select the event function type that determines how the water features will behave when activated. Possible types are Cue, Cycled, Defined, Duration, and Random.

```
Edit:01 DSC Duration
<1>Type Is: Duration
  7 Activators      1
3 Outputs          11
4 Settings
```

Activators:

Select one or several activators to be used by the event. Activator types are Clocks, Wired, and Wireless.

```
Activators
  1>Clocks          0
  7 Wired Inputs   1
3 Wireless        0
```

Outputs:

Select one or several outputs assigned to the water features that will be controlled by the event.

```
Outputs
  ID Type 12345678
<1>02 ACO: -●●●●●●●●
  7 03 ACO: ---●●●-●
```

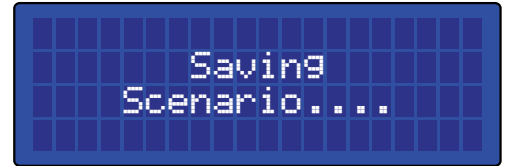
Event settings:

Enter the function settings for the event. This will include the event duration and other settings specific to the event function type.

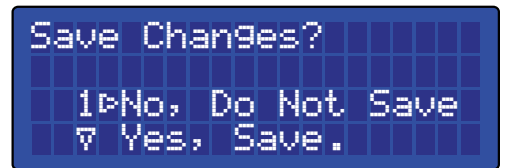
```
Settings (Duration)
  1>Dur: 00:00:30.0s
  7 Continuous: NO
3 Advanced
```

Save Changes

Changes made to the DSC Settings can be permanently saved at anytime simply by pressing the [SAVE] key. The following screen will be briefly displayed informing you that changes have been saved.



Also when you are finished modifying the DSC settings and return the Main Screen, if changes have been made, but not saved, you will be asked if you would like to save the changes.





by Fountain People, Inc.