LawnCheck

Smart Irrigation for Everyone!

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LawnCheck Immediate Valve Test

It is possible to instantly control your EtherRain sprinkler controller though LawnCheck using the "Immediate Test" feature provided as an optional feature of the LawnCheck Smartphone site.   This feature is designed for use primarily during sprinkler system maintenance.   Your controller and router must be configured in order for this feature to work. This document provides necessary configuration information for enabling Immediate Test for your controller through the LawnCheck Smartphone site.

Irrigation System Testing

Valve testing or zone testing is a common maintenance procedure wherein the operation of the sprinkler heads are visually inspected to ensure proper performance This type of testing benefits from immediate on/off control as provided by the "Immediate Test" feature available through the LawnCheck Smartphone site:

http://cell.lawncheck.com

Navigation links to the LawnCheck Smartphone site are also provided on the LawnCheck Main Page.   User interface screens are shown in the Appendix of this document

Router Requirements for LawnCheck ImmediateTest

Setting up Immediate Test requires a router that has the following features:

- DHCP reservations   (not required if static addressing is used)
- Inbound filter rules   (always required)

These router features have been available for many years on many brands of low cost home routers, but they may not be available on all routers or on routers that are older than 2 years old. If your router doesn't have these features then LawnCheck Immediate Test will not be available to you.

Configuring your controllers or routers to operate with Immediate Test will not effect the operation of your standard LawnCheck scheduled service.

LawnCheck Immediate Test Configuration

The use LawnCheck Immediate test requires configuration of both your EtherRain controller(s) and your router. The configuration process is commonly used among internet game enthusiasts and so is a well known process.   The following five configuration steps are required:

1. Set a unique port number on your controller
2. Set up a DHCP reservation on your router for your controller
3. Set up an inbound filter rule for LawnCheck on your router
4. Open a port on your router
5. Store your EtherRain device password on LawnCheck

The rest of this document provides more specific configuration information for these steps.   This document uses screen captures from the admin interface of a D-Link 615 router in order to provide a visual reference for the configuration instructions.

Note: All routers have different administration interfaces and LawnCheck cannot provide support for router configuration.

Step 1. Set a Unique Port Number on EtherRain

Use the EtherRain admin programs (Windows or Java) to set a port number within the recommended range. Suggested port numbers include but are not limited to:

91, 92, 93, 94, 95 or 96.

If you are controlling multiple EtherRain controllers through LawnCheck you must configure each controller with a different port number.
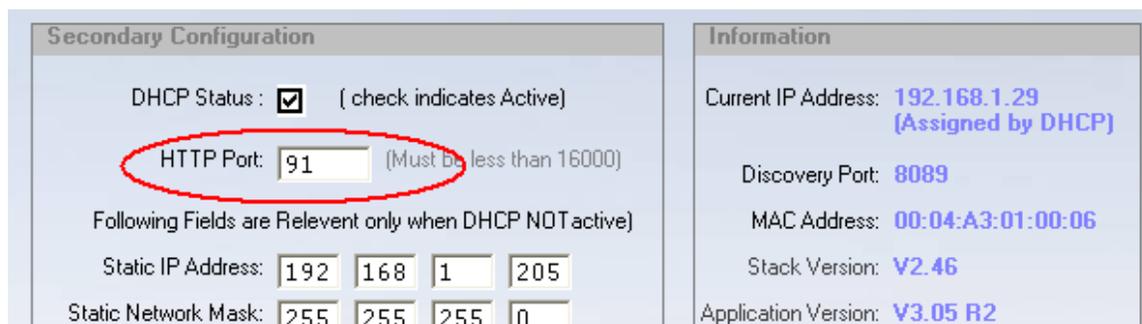
Step 2. Setup DHCP Reservations on your Router

DHCP reservations is a feature found in most routers. It assigns a network device to a constant IP address.   For this process, the actual IP address of your controller doesn't matter, what matters is that the controller is assigned the same address all the time, even after power failures and router re-boots.

To set up a reservation you will need the MAC address of your controller. This is available from EtherRain Admin, from the configuration page:

From EtherRain Admin, note your controller's MAC address:
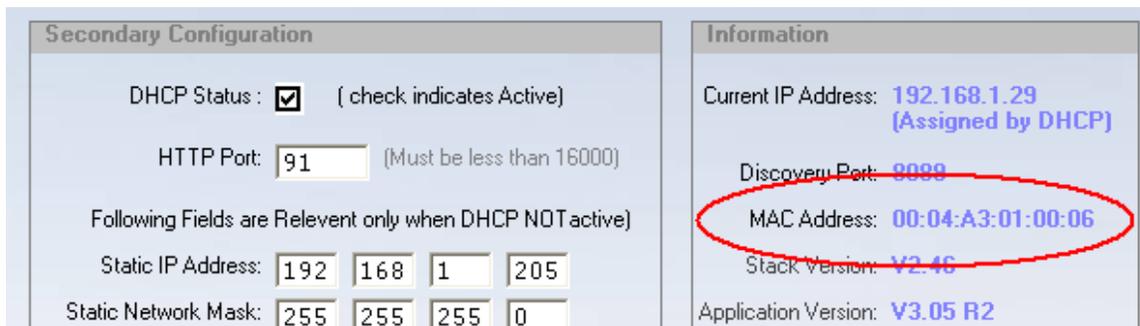
From your router admin screen, locate the DHCP Reservations setup screen. The D-Link router allows selection from a list however, EtherRain will be listed with name as "Unknown" so it is best to just enter the IP Address and the MAC address from the EtherRain admin screen (show in screen capture above – use the IP address assigned by DHCP). Verify that your entries match those displayed on EtherRain admin.
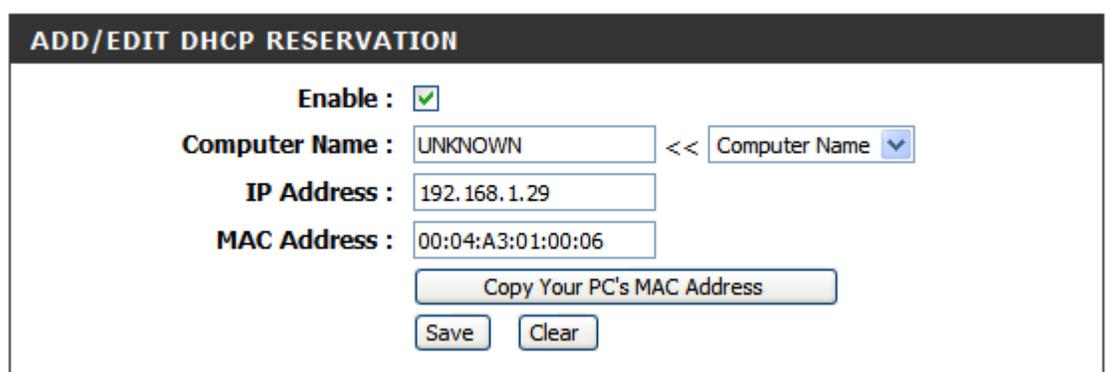
The above screen capture shows the MAC and IP address of an EtherRain controller entered into a D-Link 615 admin screen. After clicking save, the reservation appears in the list:

DHCP RESERVATIONS LIST :

| Enable	Host Name	MAC Address	IP Address		
☑	UNKNOWN	00:04:A3:01:00:06	192.168.1.29	📝	🗑

A DHCP reservation must be made for each controller that uses Immediate Test.

Step 3. Setup an In-bound Filter Rule

To enable Immediate Test, you will open up a port on your router. However opening up a port will expose your controller to quite a bit of unwanted traffic which can cause unreliable operation.. In order to ensure reliable operation of your EtherRain controller, you MUST set up an inbound filter. The filter will only allow packets originating from LawnCheck to pass through the router and connect with your controller. Only one In-bound filter rule needs to be established even if multiple controllers are being set up.

Allow TCP from source address: 173.255.192.185

The filter rule shown below will allow only TCP traffic from LawnCheck to reach your controller. Note that the begin and end address in the table is the same.
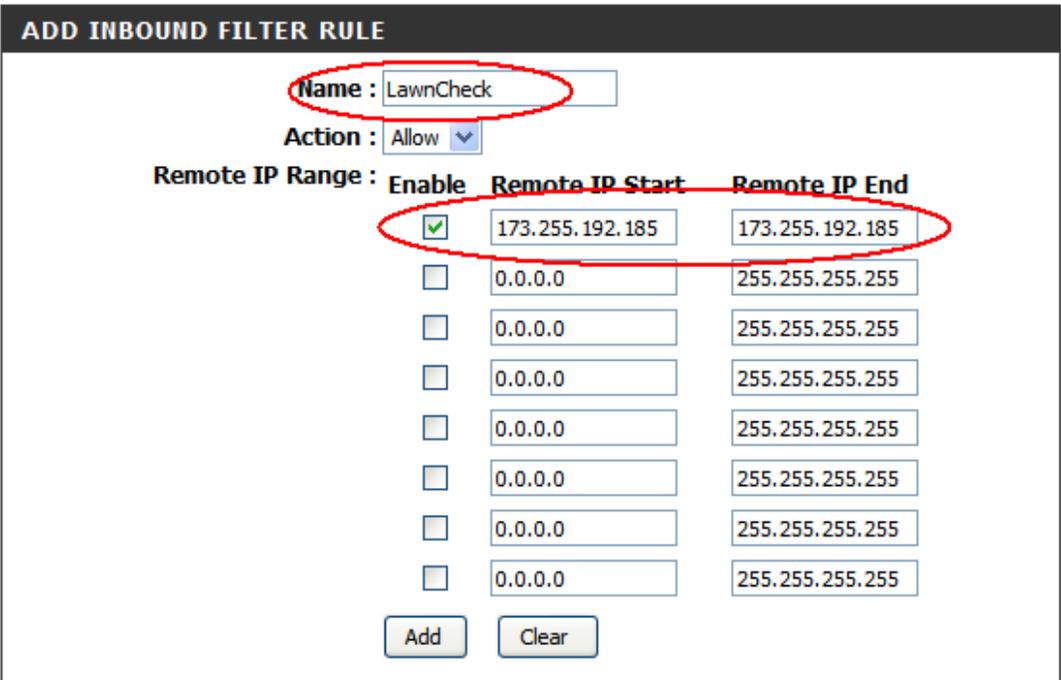
ADD INBOUND FILTER RULE

Name : LawnCheck

Action : Allow

Remote IP Range :

Enable	Remote IP Start	Remote IP End
☑	173.255.192.185	173.255.192.185
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255
☐	0.0.0.0	255.255.255.255

[Add]   [Clear]

Click Add to save the rule. The rule will now be used in the next step.

Step 4. Open Port on Router

In the previous steps we've set up a unique port for each controller, ensured a reliable IP address by setting up a DHCP reservation for each controller, and established an input filter. Now we can open up a public port to direct traffic from LawnCheck to the controller. If setting up multiple controllers a port forwarding rule must be set up for each controller (each controller must have a unique port).

In the image capture above, note:

1. Rule Name: Make up a name that indentifies the rule: controller name and instant.
2. IP Address: This is the IP address reserved in step 2 above
3. Ports to open: This is the port that the controller was set to in step one.
4. Inbound Filter: This is the filter set up in step three.

Click Save to save the new port forwarding rule. One more step to go!

Step 5. Add Controller password to LawnCheck

From LawnChecks main screen, select your controller, click "edit device" and click "Begin." Enter your controller's password in the field provided. Click Save. The default password on new EtherRain controllers is: pw (two lowercase characters)

Configuration Complete

Configuration is complete. Given the above instructions were followed and the numbers accurately entered, LawnCheck Immediate Test feature should now be operational from the LawnCheck Smartphone site.

Frequently Asked Questions. - FAQ

Will the zone start immediately upon button press?

> The command will be sent to the controller immediately, given an active Internet connection. The controller has a few second builtin delay between zones, so zone 1 will start immediately, but it may take 10 to 20 seconds from button press until zone 8 starts.

Will the zone stop automatically?

> Yes. The command will be set with a run time of between 10 and 90 seconds. There is no need to issue a stop command when using LawnCheck Immediate Test, but you can.

Will the "Stop" command act immediately.

> Given an active internet connection, the "Stop" command will stop irrigation immediately without delay.

Are Immediate Test cycles logged to my LawnCheck Log?

> No the Immediate test cycles are not logged. They operate outside the standard scheduler

What if my router doesn't support DHCP reservations?

> Immediate Test may not be reliable, it may work for a week and then stop because your controller was assigned a different IP address.

Continues next page….

What if I don't set up and apply an inbound filter?

Your controllers will be subject to heavier than expected traffic and may reset fairly frequently which may cause unreliable irrigation.

My Immediate Test isn't working. What can I do?

Read through the configuration steps again starting at step 1. Re-trace your steps and ensure the numbers are accurately entered and the rules are actively applied within your router.

Appendix: User Interface Screens