

The master Rain8upb (30080) is a modular 8-zone sprinkler controller module that is driven by a UPB power line interface (PIM). It is the first 8-zone module in a UPB installation and the only one that connects directly to a PIM or a 24VAC transformer.

## Features

- Control each of the module's eight zones individually and all off.
- Global all off.
- Supports status request.
- Default run timers for each zone prevent over watering.

Additional units may be daisy chained to provide control signals and power to as many as 2000 irrigation zones at a single installation.

There is a single RJ11; RS232 jack on the module that is used for initial setup on all modules and on the master module only, provides the physical connection to the UPB PIM.

## Verify contents of shipping box

1. Rain8upb master module
2. 110 to 24-vac, 20VA, transformer
3. 3 piece RJ11 – DB9 cable assembly

Not supplied but required for operation:  
**A UPB power line interface (PIM)** (PCS PIM-R, Simply Automated UMC-DB9 or HAI 36A00-1)

## Configure Rain8upb

You will need a PC with Windows 98 or later as your operating system, a serial port or USB port (with our optional USB adapter) and the supplied RS232 RJ11 – DB9 cable.

1. Download configuration software at <http://wgl designs.com/rain8upb.html>
2. Using the RJ11 cable and the DB9 adapter (but not the gender changer), connect DB9 end to a COM port or USB adapter on your PC. Connect the RJ11 end to the jack labeled "PIM-config" on the left.
3. It is not necessary to provide 24VAC power at this point as it is supplied over the RS232 link. The green LED to the left of the RJ45 jacks should be off.
4. Select the serial port that the Rain8upb is connected to and click "Apply". After a few seconds you should see a message box indicating that a UPB Rain8 was detected. Click on "OK".
5. Enter the desired SID number. This number identifies the Rain8 module to other UPB devices on line.

6. Enter the NID number that identifies your UPB network.
7. Enter the Rain8 module # you wish to assign to this module. Note that the corresponding DID (device ID) number for each zone is displayed just below. For example if you enter module# 3 you should see the mapping for all 8 zones. Zone 1 = DID 17, 2 = 18, etc.
8. It is recommended that these two assignments be recorded in the appropriate boxes on the module label. It is a good idea to record the DID assignments for each zone as these will be needed later.
9. The 8 input boxes labeled "default run timers" are used to program the maximum allowed run time in minutes or seconds that a given zone or valve will run before turning off automatically. The settings for each zone may be anything from 0 to 250 increments. This prevents "run away irrigation" in the event of a lost "OFF" command. If this feature is desired click on "enable" and select minutes or seconds.
10. The "Input" feature would be enabled if your installation requires a flow meter or rain switch.
11. The last step is to click on the "load module" button. The configuration data is now loaded into your Rain8upb. Disconnect the RJ11 cable from the PC and module.

## Installation

### Controller Location

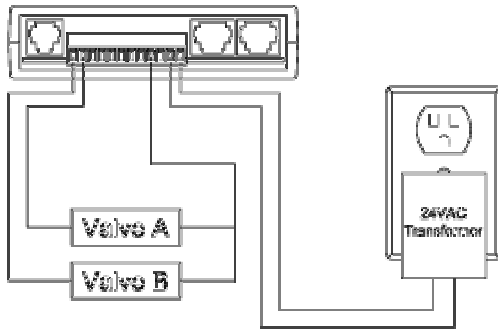
- Select a mounting location that is close to an electrical outlet and the valve wires that will connect to it.
- The controller should not be exposed to water. If used outside, it is necessary to provide a weather proof housing for your Rain8. <http://www.wgl designs.com/r8outdoor.html>
- Mount your controller to a smooth dry surface by means of the enclosed Velcro strips.

### Wiring the Valves

- If the maximum distance is less than 600 feet, use a single 20 gauge, plastic insulated wire for each valve.
- Each valve has two wires. One wire is designated as the common. All of the common valve wires can be connected together to one wire going to the controller.
- All connections should be made using wire nuts in grease caps to prevent corrosion.
- Only one valve should be connected to each zone.
- The rated output is 24 VAC at .35 amps (350ma), per zone. Some valves require a greater current than .35 amps to initially open and drop back to a lower value. This will present no problem as long as the drop back value is .35 amps or less.

### Connecting the Valve Wires to the Controller

- Determine which valve is to be connected to each zone. Insert each valve wire into its respective position on the terminal strip and gently tighten the setscrew.
- Connect the common wire from the valves to the terminal labeled "com".



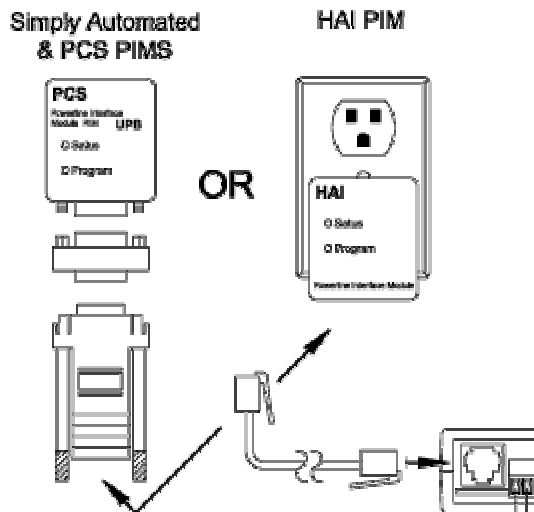
### Connecting the Transformer (Master unit only)

Connect the 24-VAC transformer to the two terminals labeled "24 VAC". Note that this is required only on the first module installed as the power for additional units is supplied by means of the network connections.

### Connecting the UPB PIM (Master unit only)

There are two techniques for connecting the UPB PIM to the RJ11 jack on your Rain8 module depending on which manufacturer's PIM you are using

1. The HAI PIM connects directly to the Rain8 using the 6-conductor modular cable that came with your Rain8upb. Do not use the cable that came with your HAI PIM.
- OR**
2. The PCS & Simply Automated PIMs have female DB9 jacks so it is necessary to use the enclosed DB9 – RJ11 adapter and the M-M gender changer in addition to the modular cable.



Congratulations you are now ready to apply power. The first thing you should see is the green LED blinking. This

indicates the Rain8upb is looking for a PIM. When it finds one, the LED stops blinking and stays on steady. This normally just takes a few seconds.

### Troubleshooting with the Status LED

This Rain8 features a status LED visible from the bottom on the module just the left of the RJ45 network jacks.

#### No LED

The Rain8 is not running. Verify 24VAC transformer is connected to the last two terminals on the detachable terminal strip.

#### Steady LED

Everything is working okay. No incoming commands.

#### Regular flashing LED

No PIM detected. Check modular cable and verify correct type. Verify interface plugged in to outlet and connected to Rain8. If is still flashing try replacing cable or interface module.

#### Intermittent flashing LED, 1 – 2 seconds OFF

Normal operation to turn on or off a zone. Incoming command detected with a NID code and DID code that is enabled. The specified zone will now have 24VAC between in and the common terminal(s).

#### Intermittent flashing LED, very short OFF

Incoming UPB signal detected with NID or DID codes that are **not** enabled. No zones will be active.

### Checking it out

Download the demo software from <http://wgl designs.com/rain8upb.html>

This program runs on a PC and requires a second PIM to communicate with the power line and present UPB signals to your Rain8UPB.

1. Verify your Rain8upb's green LED is on steady.
2. Select the COM port number your second PIM is connected to and click "connect". If no PIM found a message box will report failure.
3. Enter the NID that was configured earlier.
4. Enter the assigned rain8 module number.
5. Click on the key that represents the zone you wish to activate.
6. Click on "send on cmd" and specified zone should now have 24VAC between its terminal and common (COM).
7. If the "auto query" is enabled, an automatic status request is transmitted each time a command is sent. The results of the query are a solid green circle if the zone is active and a checkered one if it is off. A gray circle indicates no response for the query. Possibly due to no matching NID or DID. The query command can also be sent manually by clicking its button.