DIY Zoning: Teasers

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1. Temperature Graphs

Note:

All the images on this page are scaled down. Click on the images to see the full size image.

Below is the temperature graph taken from the existing system working in a passive heating mode (everything is connected, except for the actual A/C unit hardware controller):

The red line reflects the temperature in the room where the existing thermostat is located, and the other rooms are controlled by the zone controller. It is visible (on the right) that it is possible to maintain different temperature in different zones (the NW Bedroom is scheduled to maintain the temperature at 25?C starting at 21:00 hours. The system is off between 9:00 and 20:00.

2. Console

Below are the screenshots from the current version of the console. It is not supposed to be used by the end user, but the developer, yet a control freak in you may appreciate the completeness of it :)

Not all the elements are finalized, this is work in progress. However, it does show what this is all about.

2.1. Full Console

All the critical system parts (temperature sensor signal processor, zone controller, HVAC unit, damper) are reflected. The chart span is 30 minutes. Those who know will appreciate the storage closet PID controller signal chart with clearly visible *P*, *I*, *D* separation and anti-windup *I* behavior :)
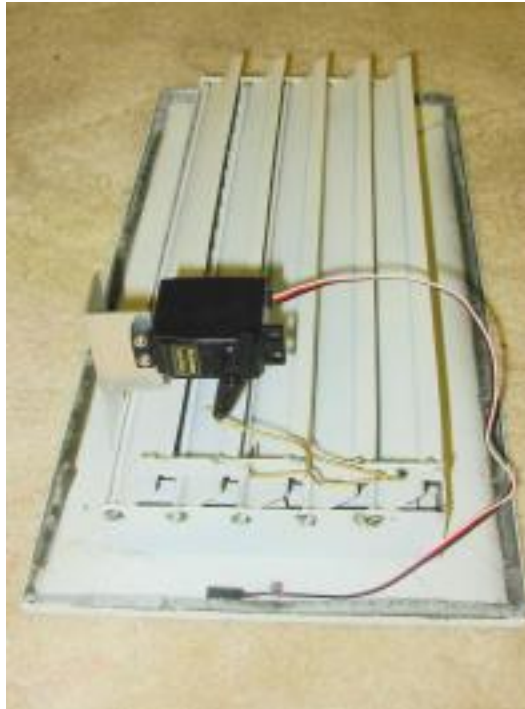
2.2. Minimal Console

Same code, but with corresponding preferences checkboxes unchecked. Hopefully, there'll be a day when all the debugging information will be unnecessary.

3. $10 Damper

Below is the picture of $10 damper:

Takes a $10 Futaba servo, couple of pushrods, L-shaped aluminium piece, an extra screw, 15 minutes of your time - and you have yourself a damper.

Note:

Compare: in existing zoning systems, the cost per room is anywhere between $600 and $1300, in this case, it is approximately $10 for a servo, and approximately $3 for a sensor, which makes it less than $20, if you count the price for all those small things in there.