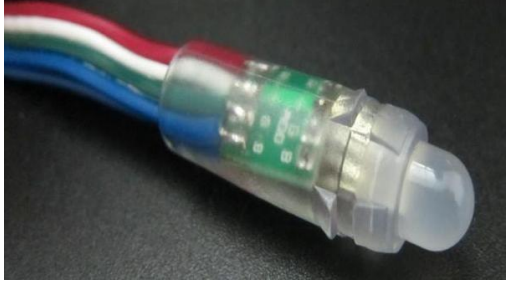
Mr Cheapo meets Mrs Penny Pincher

David Jones
aka: ukewarrior @ DIYC

June 3, 2017

Do It Yourself Christmas.com

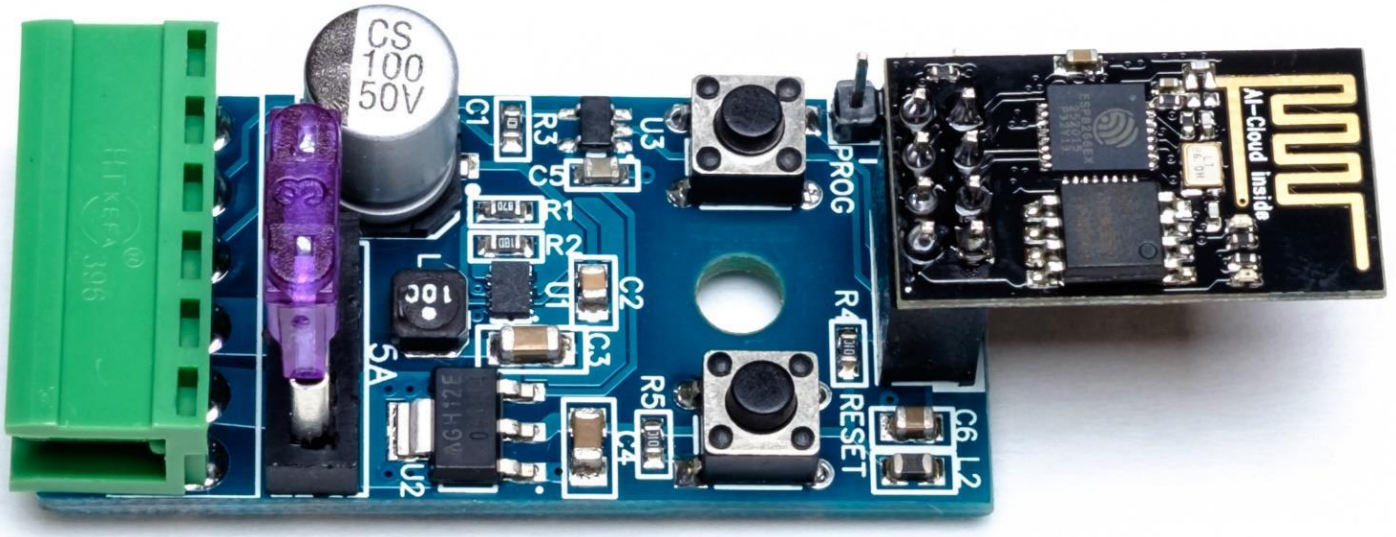
Automation on the cheap



- This presentation will be about lots of ad-hoc technologies and items
- Not just pixels….

The $10 Pixel Controller Version 2 !

The ESPixelStick – An E1.31 WiFi Pixel Controller



The $10 Pixel Controller Version 2 !

- 1 Universe -> 4 Universes
- 170 pixels -> 682 pixels (or more)
- WiFi
- Open Source, fully documented
- Tested with Vixen 3 and xLights
- **V2 Updates**
  1) Power supply section is completely different. It has an on board buck converter for 5V-24V DC input that will run 100% duty cycle at 5V and the 3.3V LDO is a different part as well. No longer have to worry about voltage configuration.
  2) Mounting hole sized for a #8 screw to easily mount in CG cases.
  3) Fixed the issue with using 3.3v programmers.
  4) Fixed a potential issue that could cause the ESP module to hang if a watchdog reset occurred or the module rebooted.
  5) All passives are SMD now. Only components left to solder are headers and buttons.

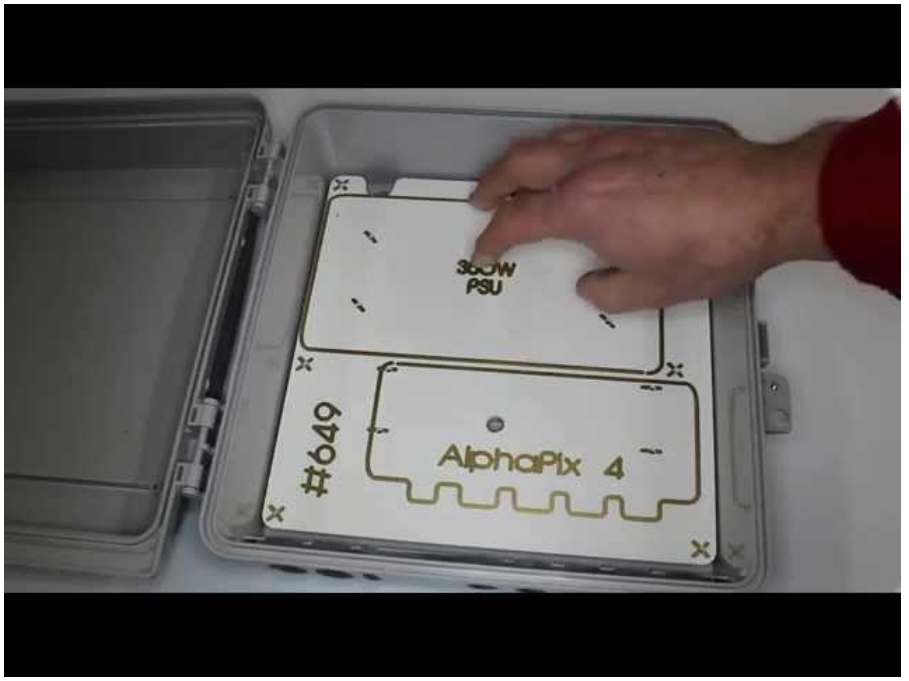
ESPixelStick

- Designed to fit inside a 1” thinwall PVC pipe.

ESPixelStick

- Or in a small CG case

Keptel TA-200



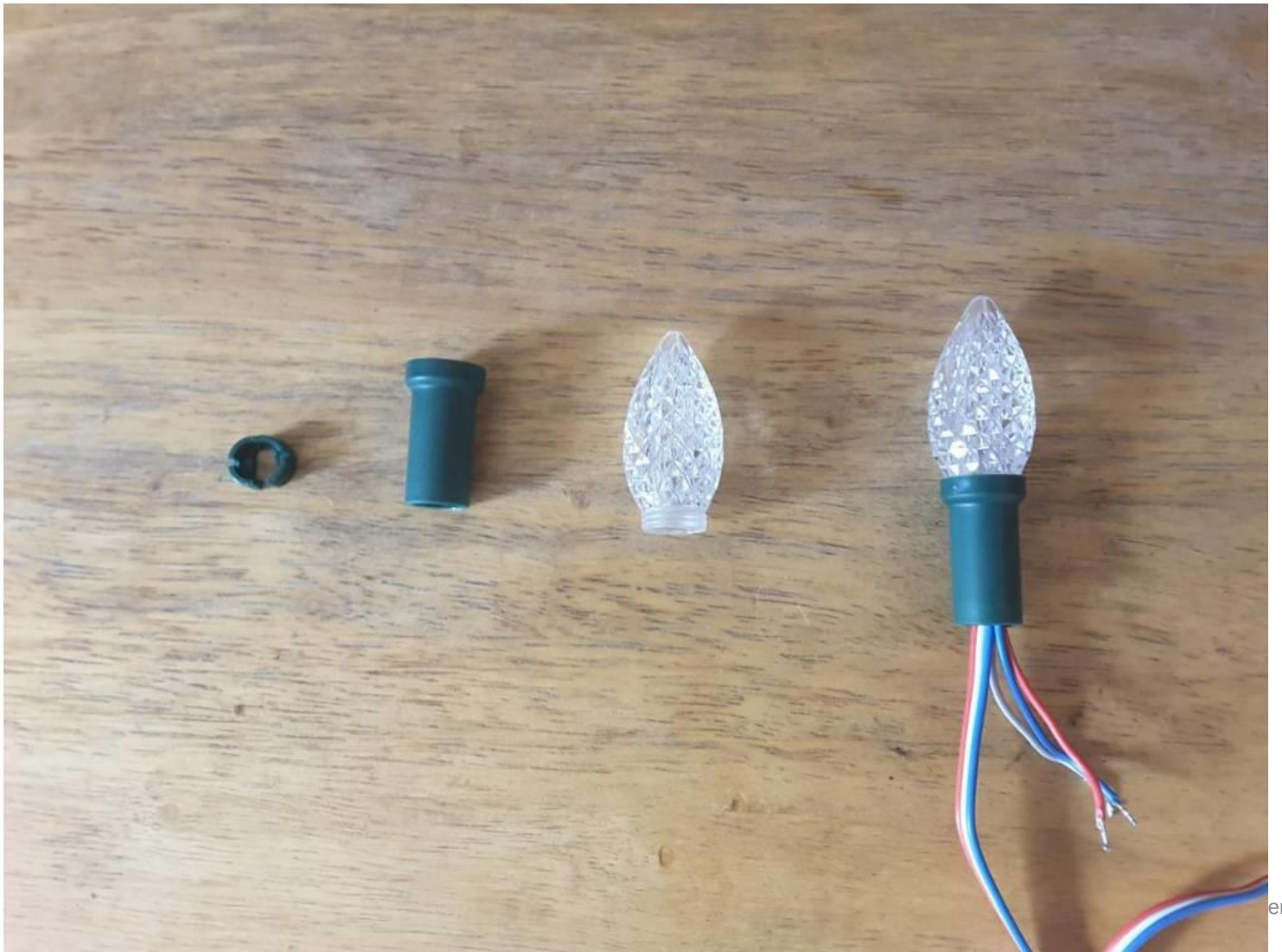
The $10 Pixel Controller Version 2 !

YouTube Video of one stick running this set of P10 panels.

720 Pixels across 5 Universes on one ESPixelStick.
Sequenced in Vixen 3 and played via FPP at 25ms

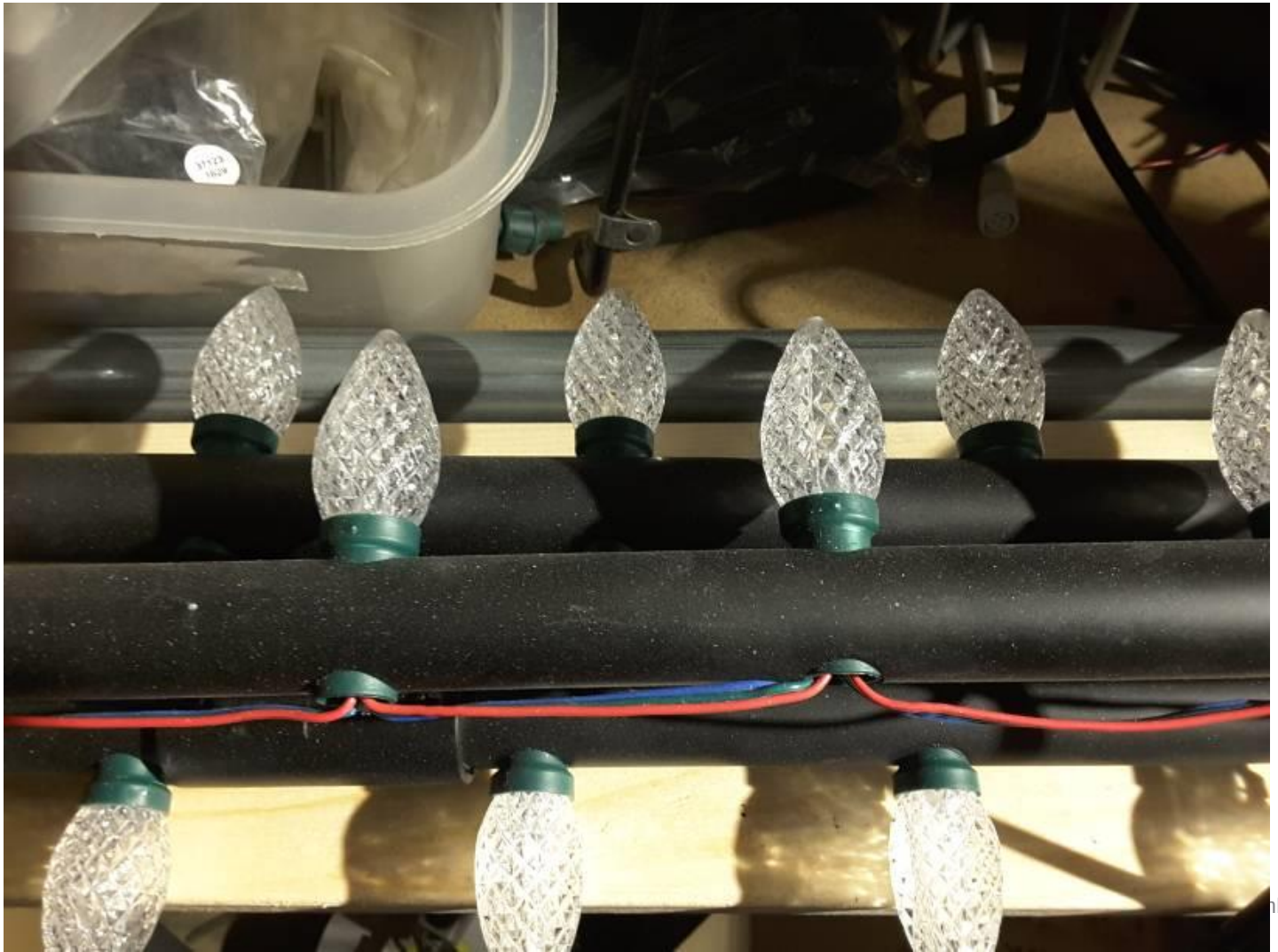
Take a bullet pixel, add a cover!

Thanks to Patrick Millen of Kansas City



Mount them to painted PVC

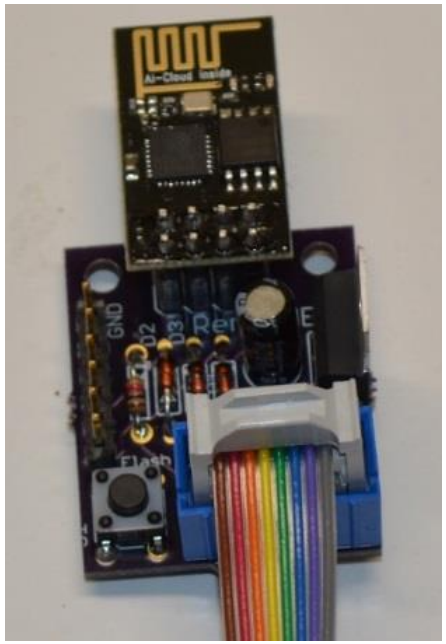
drilled holes in the pvc, screwed cover onto base, inserted into pvc and the inserted bullet pixel into base. No need to glue anything and the pixels won't drop out



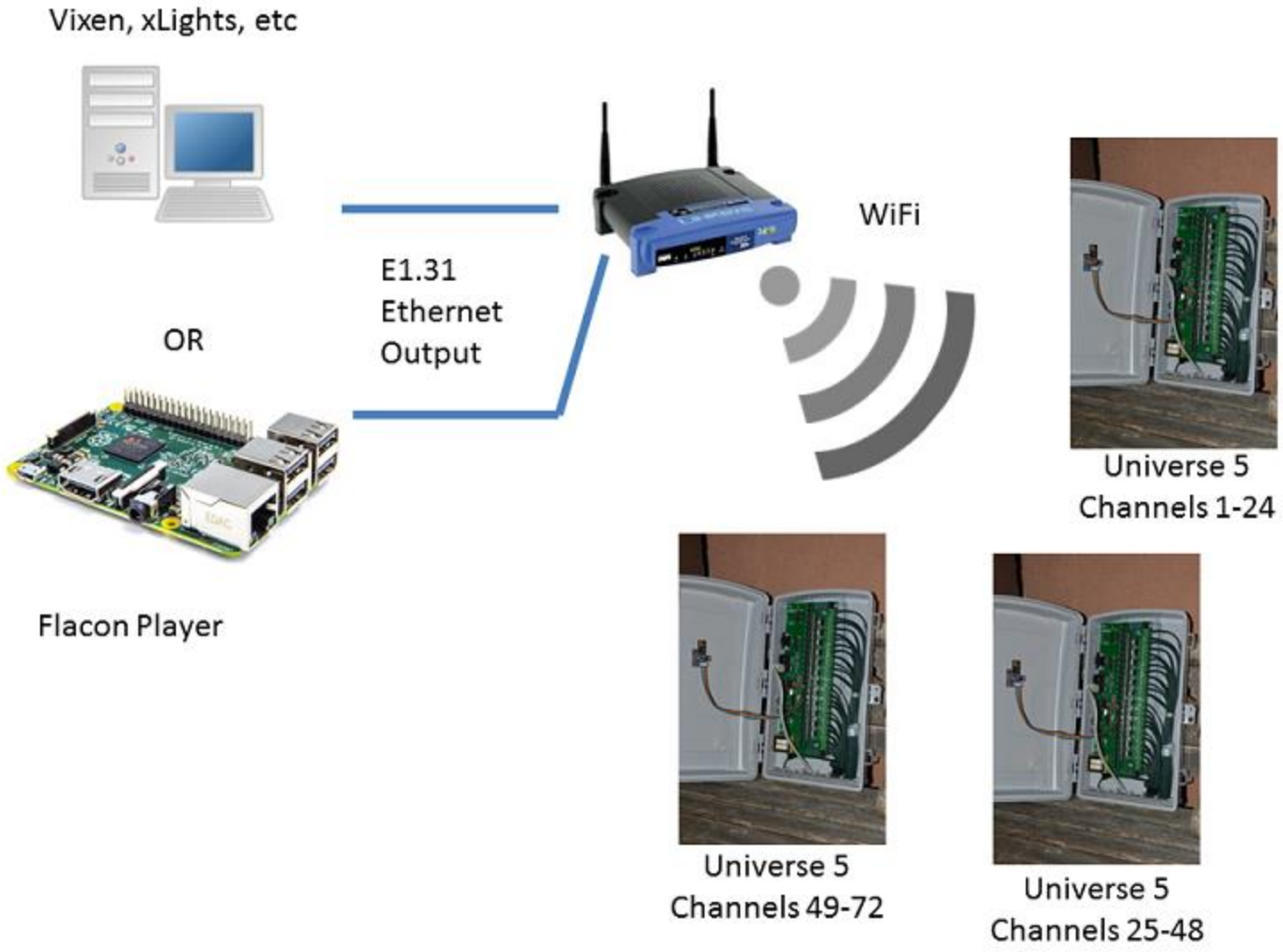
RenardESP

- The RenardESP adapter will convert any Renard that uses the SS BOM (and most of the non - SS models) from a device controlled by RS-485 Serial to a device controlled by e1.31 or sACN over WiFi. It does this by replacing the RS-485 receiver chip on the Renard board.

  So instead of running CAT 5 through your yard and connecting your Renards to a RS-485 USB adapter or an e1.31 bridge, you can cut the cords and stream all your control data over wifi.



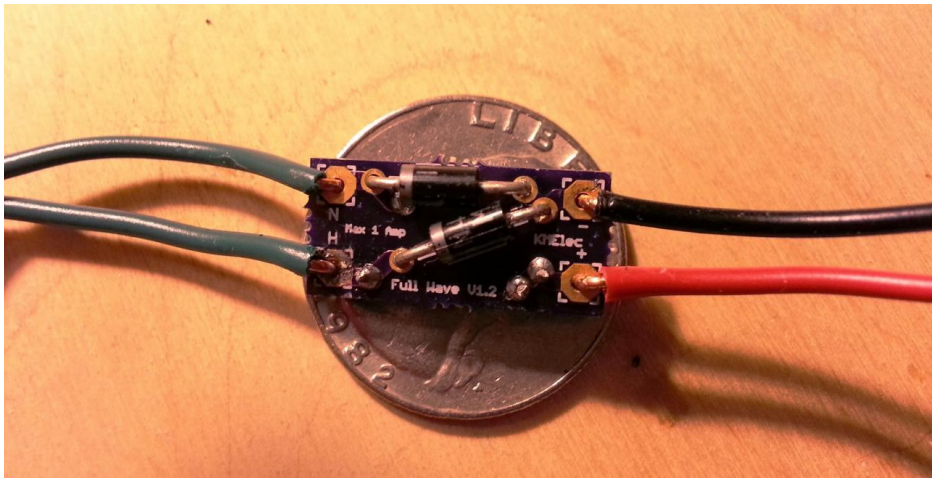
RenardESP


Vixen, xLights, etc
E1.31
Ethernet
Output
WiFi
OR
Flacon Player
Universe 5
Channels 1-24
Universe 5
Channels 49-72
Universe 5
Channels 25-48

Full Wave Converter & Super String Converter

Convert ½ wave LEDs to Full Wave

Shorten LED Strings to an exact length



Know for Sure ! $18.53

Get accurate measurements of your power draw

David Haberle's Creations

Dave Haberle is a Minnesotan that has too much time on his hands. (likely a result of living in Minnesota !)

Through the years he has created a number of unique and gap filling products. They pretty much are all inexpensive and available as kits to keep the prices down.

Dave's 'handle' is : *Dirknerkle* *http://digwdf.com/store/*

Dirknerkle's Inventorium and Generally Worthless Device Factory

Oh, by the way, 100% of the meager profits from the DIGWDF Store help pay the expenses of operating diychristmas.org: http://diychristmas.org/vb1

ESP Thing (in the Raffle !)

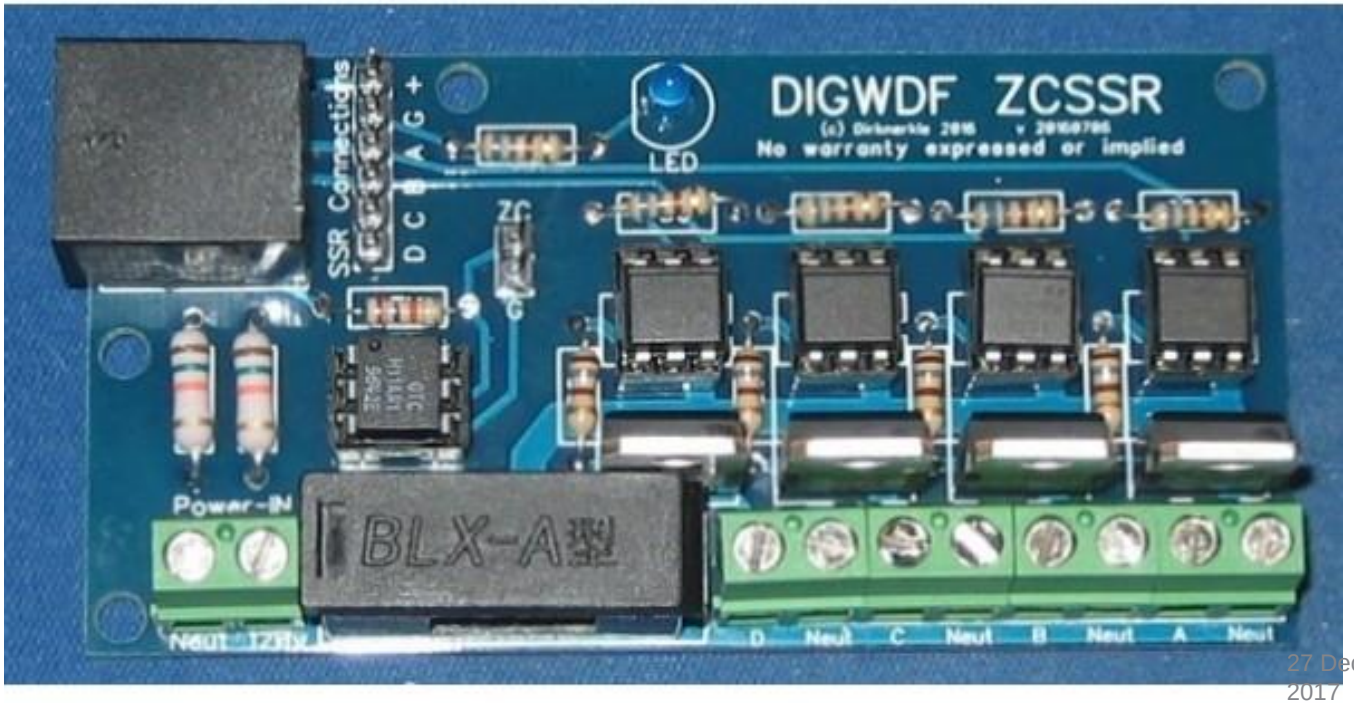
The ESP Thing is essentially a tiny, 8-channel wireless (Wi-Fi) Renard controller that is intended to be one of the main building blocks of a controller setup of your own design. It can run Renard or DMX firmware. The Thing can be a servo controller, a controller, a controller for external SSRs, an LED driver, pixel controller or what-ever.

ZCSSR (in the Raffle !)

The ZCSSR is a 4 channel, high powered solid state relay.

It should be able to handle 10 Amps overall, 3 per channel.

It can be matched with the ESP Thing !



OneStick (In the Raffle !)

The OneStick is a wireless single-channel dimmable controller that can assommodate up to 7A current at 120vac. It can use Renard or DMX firmware. When used with an ESP-01, it becomes a Wi-Fi capable controller. Or you can use a XBEE with the use of an adapter board.

A copy of this presentation is available for the asking.
Contact me at:
www.doityourselfchristmas.com
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