

# Open Source GIMP (\$0 Photoshop)

## Abbey Road “Repair”



# **Some Open EV Issues**

Ted Lowe, 6/20/14

# Tesla Motors “opens” Patents

- Elon Musk’s Tesla Blog - June 12, 2014
  - <http://www.teslamotors.com/blog/all-our-patent-are-belong-you>
- “Good Faith” Use
- Why?
  - Social/EV Altruism
  - PR
  - Fast Charging Standards Issue

# Standards & Openness

Remember these “format wars”?

Beta vs VHS

Bluray vs HD DVD

EV Fast Charging “Standards”

CHAdeMO vs CCS vs Tesla Supercharger

- <http://insideevs.com/the-look-on-fast-charging-point-maps-for-north-america-chademo-combo-superchargers/>
- <http://transportevolved.com/2014/06/16/nissan-bmw-look-adopt-tesla-charging-standard>
- <http://longtailpipe.com/2014/06/does-tesla-have-to-give-up-control-over.html>

# Dakota Project - Charging Station

Want:

- J1772 cord
- Garage wall mountable
- Open (Kit, design/assembly documentation)
- Cost effective

# eMotorWerks JuiceBox - EVSE



15kW, J1772 EVSE, \$179  
+ \$129 for 6ft J1772 cable

<http://emotorwerks.com/products/online-store/product/show/44-customizable-juicebox-an-open-source-level-2-15kw-ev-charging-station>

# Dakota Project - Charger

## Want:

- PFC (Power Factor Corrected)
- Universal Input (120-240V AC)
- J1772 for 240V, NEMA 5-15 (Type B) for 120V
- Single, On Board (size and aspect ratio, cooling)
- Adjustable output current (for 120V connections)
- Open (Kit, design/assembly documentation)

## Don't Need:

- Fast charging, variable output voltage, isolation

# eMotorWorks - 12kW Level 2 Charger

Kit w/o enclosure \$1300  
(Assembled/tests \$2000)

<http://emotorwerks.com/products/online-store/product/show/7-complete-smartcharge-12000-pfc-ev-charger-component-kit-no-enclosure>