Preface

It is assumed that anyone who would want to do this mod would have some experience. However, fair warning: 12/24V DC from these 15A power supplies is not to be trifled with. Wires will melt and burn, sparks will fly, mosfets and microprocessors will give up their smoke, and tears will be shed. I've learned through experience never to compromise on the following:

- Do not make wiring changes with the power supply on (if at all possible).
- Use a multi-meter to double check voltages and polarities before connecting power to components.
- Label your wires and modules.

Motors:

Nothing really. Just plug and play. The included configuration files are setup with the correct directions. The current configuration is setup to have two independent Z motors.

Instead of X Y Z E0 E1 the connectors are X Y Z1 Z2 E0

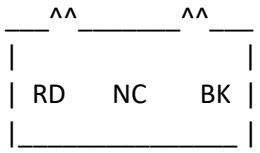
Thermistors:

You will need to move the wires from the 3 position JST connectors into 2 position connectors. Since it's essentially a resistor without polarity, wire order is not critical. It wasn't very difficult to gently take apart the existing JST connectors and re-assemble. I had to find a couple of 2 position connectors for the thermistor wires. I'm sure there's a video somewhere online on how to do this.

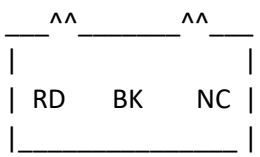
End Stops:

The A8 Limit switches are configured as NO (Normally Open). This means that when closed, they complete a circuit. The inputs on the SKR 1.4 are pulled high, and must be pulled down to ground to indicate an end-stop trigger. As configured, the stock A8 JST connectors will connect the +5 to the Input pin on the SKR, and not trigger. Use the diagram below as reference. The color order of the wires (in this case) is not important, just their location on the connector.

Original A8 Limit Switch Connector (Top View/Wires going in)
(The ^^ are the notches on the JST Connector)



A8 Limit switch connector adjusted for use on an SKR 1.4 (Same View)



Fans:

Pay attention to the polarity. It's marked on the SKR board. Just to use some pliers to remove the JST female plastic from the board and rotate it 180 if necessary. I believe I had to do this with both Hot End and Part fans. Fun note: if you short out a fan source, you will blow the chip that drives the fans and mosfets, which will render your SKR board virtually useless. Ask me how I learned this. (See warnings above)

Power Supply/Bed & Hot End Heat:

Clip off the forked connectors. I crimped ferrules on mine. I would highly recommend doing that. Don't let them short out or you'll damage the mosfets. Pay attention to the polarity on the connectors HB is opposite of HE and Power.

DC-DC Converters:

These are optional. I bought a 10 pack for another project and decided to use a couple here. One is for the controller cooling fan. It lets you dial down the voltage to (At least!) 12V (or lower to reduce noise). It doesn't take much airflow to keep all of these items cool.

The HW-411's power are sourced from one of the extra 24V fan connectors (on either side of the motor connectors).

The other is for 5V to the Raspberry Pi. Since the 411 can deliver up to 3A of current, you won't be getting that "low power" indicator from the Pi.

Panel Meter/Power Supply:

These meters are capable of being used in several different hookup scenarios. In the case of a 12/24V power supply, I have been successful with the following configuration. It does follow the diagrams shown by the manufacturer, however, I found those to be somewhat unclear.

- **Thick Black Wire** -> Negative Terminal of 24V PS
- Thin Black Wire -> Safely Disregard by cutting it off at the base of the connector.
- Thin Red & Yellow -> Positive Terminal of 24V PS

- **Thick Red** -> Negative Return From Printer Controller

Positive Printer Controller Wire -> Positive Terminal of 24V PS

Parts List

Qty.	Part	Amazon Search Term
1x	SKR 1.4	
5x	TMC2209	
1x	TFT24	
1x	Raspberry Pi 3 (or higher)	
2x	DC-DC Converter	HW-411 DC-DC
1x	VC-288 Digital V/A Meter	MCIGICM 0.28" LED Voltmeter Ammeter
1x	Meanwell 24V Power Supply	MEAN WELL LRS-350-24
1x	120mm Fan	NOCTUA 120mm

Optional, but great to have if you're an electronics tinkerer:

1x	Ferrule Kit	Ferrule Crimping Tool Kit, Sopoby
1x	Connector Kit	Dupont JST-XH Crimping Kit
1x	Heat Shrink Kit	650pcs Heat Shrink Tubing Black innhom