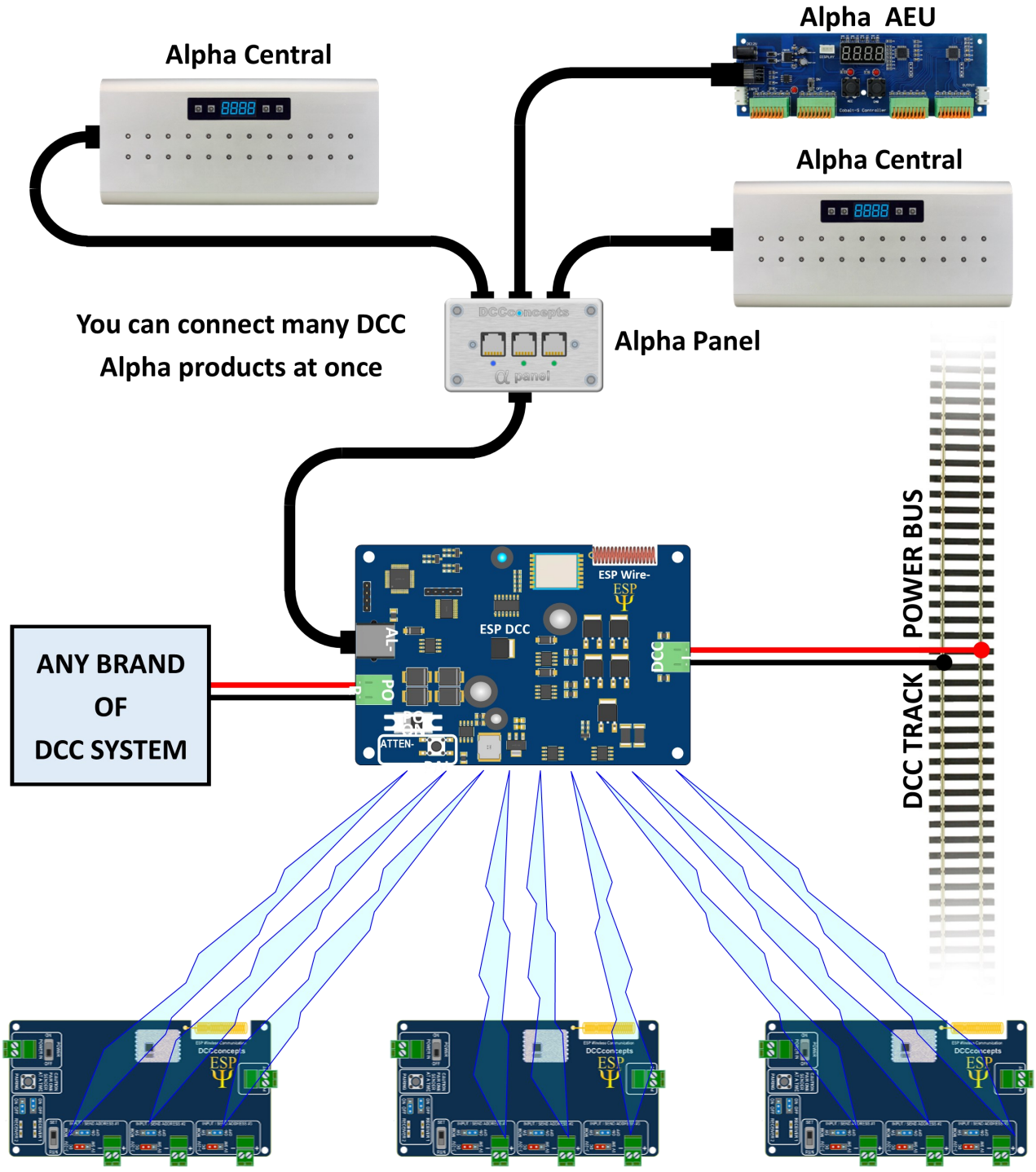
thinking outside the square

Connection Advice: Using DCC-ESP.RX with ANY BRAND of DCC system

DCC-ESP.RX Accepts the output from your DCC system and seamlessly integrates information from DCCconcepts Alpha and ESP transmitters, combining them to deliver commands to accessory decoders on the Track Power Bus.



Almost unlimited wireless transmitter connected to the DCCconcepts ESP receiver.

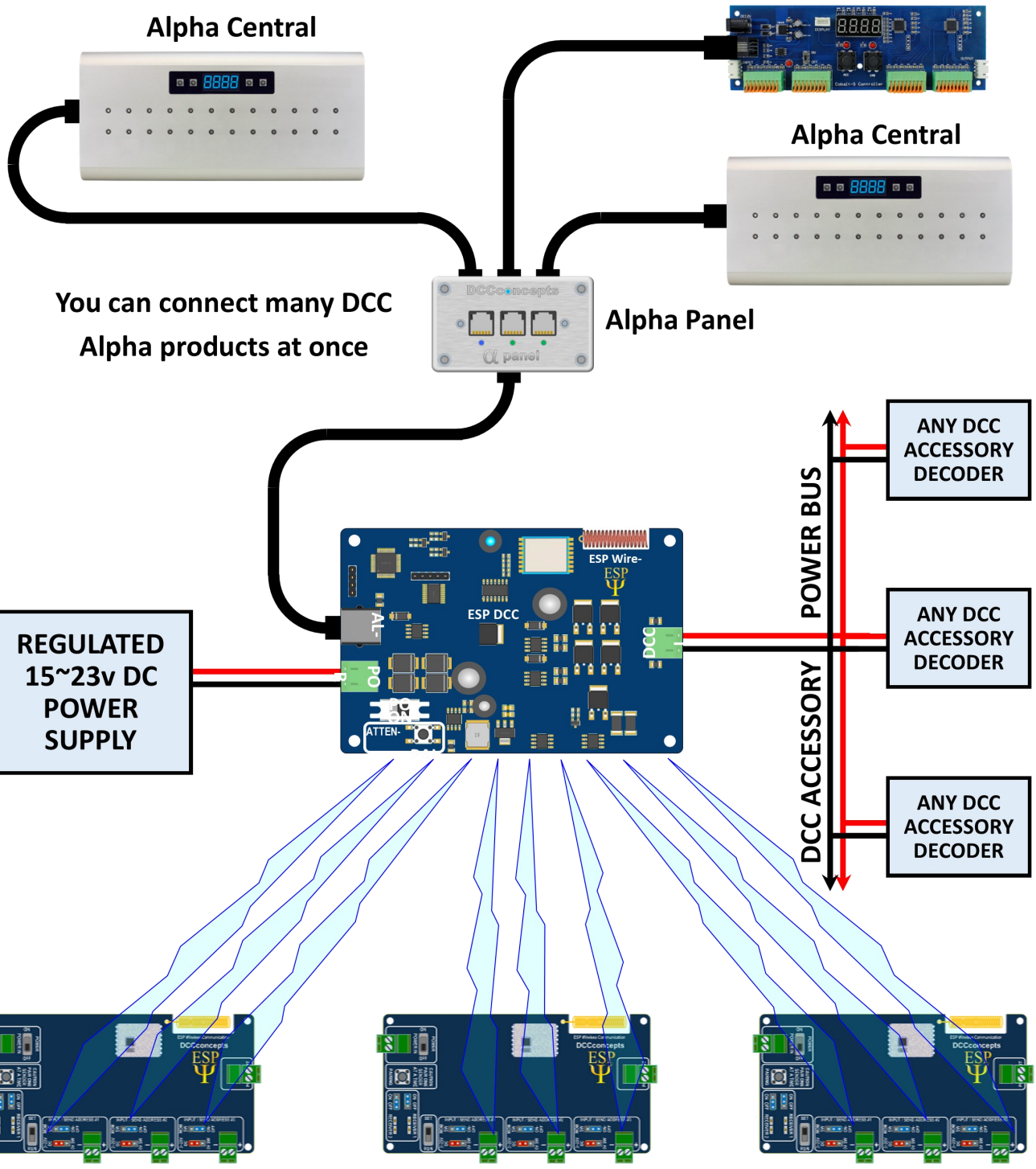
(Note: Once quantity exceeds 50 or so, expect a slightly longer system boot time)

DCC-ESP.RX is NOT a power booster. The power output of your DCC system stays the same, however DCC-ESP.RX has a high power handling ability and excellent overload protection, maximising the benefits of every DCC system.

DCC concepts thinking outside the square

Connection Advice: Using DCC-ESP.RX to create an independent Accessory Bus

DCC-ESP.RX uses the power supplied by your regulated DC power supply to create a strong DCC Accessory power bus and seamlessly integrates information from DCCconcepts Alpha products and ESP transmitters, combining them to deliver their commands to the Accessory decoders which you have connected to the Accessory Power Bus.



Almost unlimited wireless transmitter connected to the DCCconcepts ESP receiver.

(Note: Once quantity exceeds 50 or so, expect a slightly longer system boot time)

When powered by DC, the DCC-ESP.RX creates a high quality, powerful DCC Accessory Power bus that you can use to power many accessories on your layout. We have very conservatively rated this product at 3.5 amps however this is in fact greater than most 5 amp systems of other brands. DCC-ESP.RX has excellent integrated overload protection.

Connections and operational ESP-related details for the DCC-ESP.RX

DCC-ESP.RX has been created to extend the flexibility of ESP and Alpha bus at the layout. It is NOT the same as the DCC-ESPR unit, designed to allow you to wirelessly receive information about the status of any DCC accessory at the control panel, so you can easily make sophisticated control panels with almost no need for wires linked to the layout.

DCC-ESP.RX connections and features:

1. DCCconcepts Alpha Connection. Use a DCD-ACL cable or the cable supplied with Alpha products to connect here.
2. Power IN: For a pass-through connection incorporating your DCC system output, connect the track power outputs of your DCC system here.
2. Power IN: For an independent DCC Accessory Power Bus, connect a good quality regulated DC Power Supply here. DCC-ESP.RX manages its own power protection so you can use 12 to 23 volts with a power rating of 2 to 5 amps. (We generally recommend 18v for most applications).
3. Power ON/OFF Switch: This switch controls DCC-ESP.RX power. The ON and OFF positions are clearly marked.
4. Pairing Switch: Press for 2 sec to put the DCC-ESP.RX into pairing mode. (The LED #6 will flash at 4hz when ready). Note that pairing will stay active until you successfully pair all of your ESP transmitter units. To end pairing, press this switch again for 2sec to return to the ready mode.
5. DCC-OUT connections: If using DCC-ESP.RX in line with your DCC system, connect this output to your track power bus. If you are using DCC-ESP.RX as an Accessory bus generator, connect it to your Accessory power bus.
6. Indicator LED: OFF = No power. ON = normal operations. If overload protection is tripped, this LED will flash at 1hz. If the LED flashes/strobes in lots of 3 pulses, DCC-ESP.RX is receiving data from a transmitter. If the LED flashes at 4hz then the DCC-ESP.RX is currently in pairing mode.

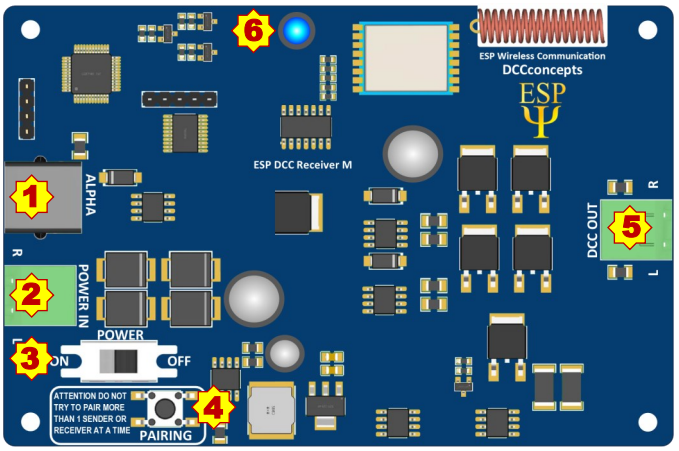
About the DCC-ESP.RX pairing & receiving process.

Every ESP transmitter and receiver is assigned a unique RF address in production. So, when you pair a transmitter and receiver, they are tied together. Once paired, the transmitter will then only send data to the receiver it has been linked to.

One Receiver can be paired with a very large number of transmitters so ESP works well with even the largest layout.

A receiver can process about 5 transmissions per second but even when data is very busy, transmissions are never lost, as a transmitter will keep sending information until a confirmation message has been received from the receiver.

You can of course re-pair any transmitter to another receiver at any time. To do this, simply repeat the pairing process.



How to pair an ESP transmitter and receiver.

- Check both transmitter & receiver have power ON.
- Press & hold the PAIR key on the ESP Transmitter for 2 seconds to initiate transmitter pairing.
- Press & hold the PAIR key on the ESP Receiver for 2 seconds to initiate receiver pairing.
- The LED on the transmitter will keep flashing until it has successfully paired with the receiver. The transmitter LED stops flashing when it has paired.
- You can now go on to pair another transmitter.

NOTE: As it is usual to pair many transmitters at a time, the Receiver remains in PAIR mode with its LED flashing until ALL transmitter shave been paired. When you have finished pairing, press and hold the Receiver PAIR key for 2 seconds to return it to "Ready mode".

General operation of the DCC-ESP.RX

When DCC-ESP.RX is powered by DC, it will create a track-independent DCC Accessory Power Bus.

Wireless information received is translated into a DCC command and output to the DCC Accessory power bus.

If any DCCconcepts Alpha product is linked to DCC-ESP.RX, any commands that are issued by the Alpha unit will also be sent to the DCC Accessory power bus.

When DCC-ESP.RX is powered by a DCC system, it will integrate DCC information from the DCC system, all Wireless and Alpha command information, transmitting it as a single command set to the DCC Track bus.