Power Supply:

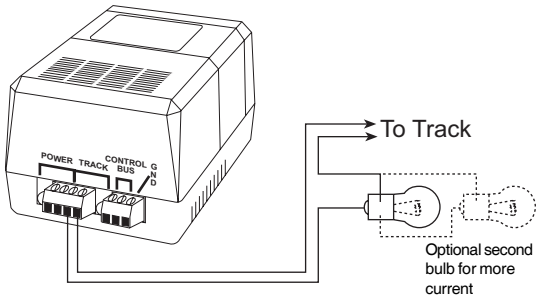
The DB3 requires a 14-18 Volt AC transformer (or 18-24 Volt DC power supply) capable of supplying 3 or more Amps. Under no circumstances should the voltage be greater than 24 VAC or 36VDC or certain damage will occur. Always use separate transformers or each booster.

Suitable transformers are: NCE P315 or P515 or Digitrax PS315 or PS515.
DO NOT CONNECT the power wires to 120 Volts wall (mains) power.
DO NOT CONNECT the transformer power to the TRACK terminals or damage will likely result (we can tell).

Short Circuit protection:

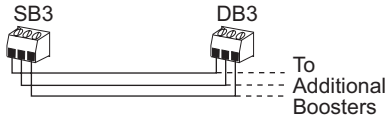
The DB3 incorporates internal short circuit protection that will shut down the track power in the event of a short circuit. The unit will attempt to re-energize the track every 2-3 seconds until the short is cleared. The track power LED conveys status of the track power. The LED will 'blip' as the DB3 attempts to restore track power, steady 'on' of the LED indicates track power is restored. The internal circuit protection of the DB3 is not intended to protect the booster from long term short circuits. Therefore we strongly recommend an external short circuit protection

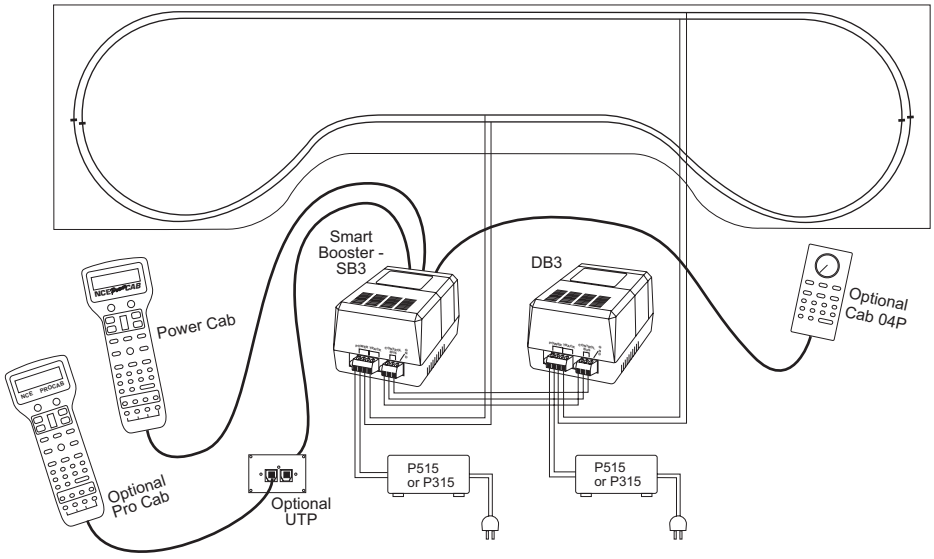
device.
This can be as simple as one or more automotive tail light bulbs such as a #1156 or similar wired in series with the track power output of the booster (see diagram to the left). NCE makes the CP6, a 6 zone circuit protector, especially for the Power Cab, SB3 and DB3 boosters. The CP6 allows you to divide your layout in up to 6 power districts. A short or derailment in one district will only affect that section of track without shutting down other sections of the layout. See CP6 Hook Up diagram at the end of this manual. Other, more expensive, DCC circuit breakers are also available from several manufacturers.



Connecting:

The left two terminals of the DB3 control Bus input connector accept DCC signals from a master source such as a command station or SB3. The right hand terminal is circuit common (ground). All three connections should run from the DB3 to other boosters.





Layout Wiring:

For runs up to about 30 feet (10 meters), we recommend #16 gauge wire as a layout “track power bus”. If you need more than 30 feet #14 gauge is a better choice. For power drops from the track to the bus #20 or #22 gauge wire is sufficient if you keep the length to 18 inches or less. With code 83 or larger rail keep your drops 6 feet (2 meters) or less apart. Code 70 and smaller rail should be about every 3 feet (1 meter).
While it is not absolutely required, we suggest twisting the main track power bus wires together (2 to 4 turns per foot). Don’t bother twisting the short power drops.

Specifications:

Input power requirement: 14-18 Volts AC (50/60Hz), Continuous Current: 3.1 Amps, Track Voltage: 14Volts.

Available connections:

1- Four position AC POWER input/TRACK output power connector
1- Three position CONTROL BUS output/ground (GND) connector
3- Cab bus “RJ” connectors

Indicator lights:

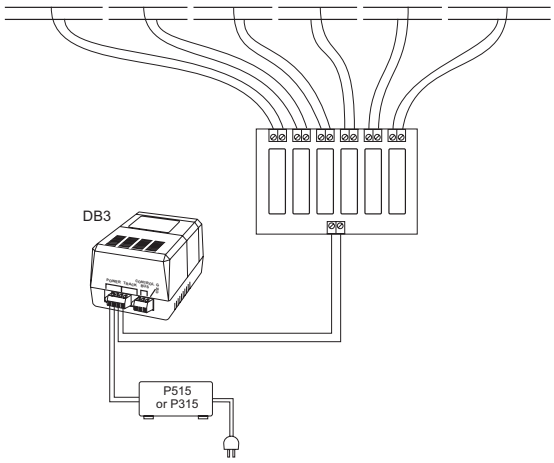
1- DC power on (red LED)
1- Track Power (red/green/yellow LED)

Accessory equipment available:

CP6: Six zone circuit protector
P.N. 524-227

UTP: Cab Bus plug in panel for extra cab plug in locations
P.N. 524-207

CP6 Hook Up with a DB3 system



Using the NCE DB3 with other DCC Systems