



Digitrax Command Control
Run Your Trains, Not Your Track!

DB200+

8 Amp Booster

**HO, O, and G Scale
Booster without command
station capability**

Features:

- **8 AMP AUTOREVERSING DCC BOOSTER
(NO COMMAND STATION CABILITY)**

- **USER SELECTABLE MULTI-SCALE OPERATION
FOR N, HO, AND LARGE-SCALE LAYOUTS**

- **LOCONET FOR EASY PLUG 'N PLAY
INSTALLATION & SYSTEM EXPANSION**

- **AUTO RESETTING OVER TEMPERATURE
AND SHORT CIRCUIT PROTECTION**

- **TRACK STATUS INDICATOR**

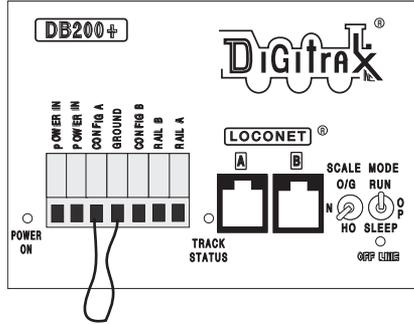
- **STABILIZED TRACK DRIVE OUTPUT**

- **OVER-VOLTAGE PROTECTED**

- **AUTO SHUTDOWN WHEN COMMAND
CONTROL SIGNAL IS LOST TO PREVENT
"RUNAWAY" TRAINS**



DB200+ Control Panel



NOTE: There are two different front panel graphics for the DB200+. Internally the booster is the same. These instructions are written for both sets of graphics as well as the DB200+ OPTO.

1.0 About the Green Jumper wire on the Terminal Block

Every DB200+ ships with a green jumper wire on the front panel Booster Terminal Plug connecting *SYNC* and *GROUND* or *CONFIG 'A'* and *GROUND*. **Do not remove it!** This jumper is needed for proper operation. There are no connections to *CONFIG 'B'*.

1.1 Power Input

The two "POWER IN" terminals on the DB200+ booster are the power input connections. Connect 8amp current limited input power to these terminals.

Digitrax recommends the PS2012 20amp power supply to power the DB200+. The PS2012 can power up to two DB200+ boosters. We recommend separate inline fuses or circuit breakers rated at 8amps.

NOTE: The 'Y' power cable included with the PS2012 has 5amp self resetting current limiters and should NOT be used for powering the DB200+.

Please refer to Table 1 for transformer requirements.



Table I: DB200+ Transformer Requirements

| AC or DC | AC 50/60Hz | DC |
|-----------------------|------------|--------|
| Max Input | 20V RMS AC | 28V DC |
| Min Input | 12V AC | 12V DC |
| Optimal Input Current | 8 Amps | 8 Amps |

For proper operation the DB200+ case should be connected to the case/common ground of the command station and any other boosters or devices requiring a common ground.

1.1.2 Heat Dissipation

It is normal for the DB200+ to be warm to the touch when it is in use. It is designed to absorb and dissipate the power difference between input voltage and the selected scale output voltage, at the current load being drawn. If the unit is not able to dissipate excess heat, over temperature thermal shutdown may occur. We recommend that you locate the boosters where they can dissipate excess heat. If you experience frequent over temperature shut-downs, add a small fan to help cool the booster.

1.2 Power On Indicator

This green LED indicates that the power to the DB200+ is on. It should glow steady green.

When powering on your Digitrax system. We recommend that the command station be turned on first and allowed to stabilize. Power on any boosters next and finally any additional devices such as PM42, BDL168, or SE8C.

1.4 RAIL A & RAIL B Terminals

Connect these terminals to the track or power management device. For smaller-scale layouts, Digitrax recommends using the PM42 to provide proper power-management. When making track connections, ensure that Rail A and Rail Bare connected to the same terminal on each booster, for example connect all Rail A terminals to the right rail and all Rail B terminals to the left rail or vice-versa on all track sections.



1.5 TRACK STATUS Indicator

The "TRACK STATUS" indicator shows that there is voltage on RAIL A & RAIL B terminals. Under normal conditions the indicator will glow orange. If an analog locomotive is being run on the layout, the indicator will be either green or red. ALL booster "TRACK STATUS" indicators should be the same color.

1.6 OFF LINE Indicator

The DB200+ automatically shuts down when the booster temperature rises to around 45 to 50 degrees Celsius (113 - 122 degrees Fahrenheit) and the "OFFLINE" Indicator will glow red. The DB200+ automatically resumes operation once the DB200+ cools down.

1.7 LocoNet Jacks A & B

Connect either Loconet Jack A or B to your existing Loconet. These jacks let you easily expand your Digitrax system by simply plugging other Loconet devices into the system.

1.8 MODE Switch

The 3 MODE switch settings are:

RUN is for normal operations.



P/R or OP is used to enable the DB200+ for **Auto Reversing** (see section 1.9)



SLEEP is used to shutdown the system



1.9 SCALE Switch (O/G HO N)

This switch sets the maximum track voltage limit.

| Scale | Max Track Voltage |
|-------|-------------------|
| N | 12 volts |
| HO | 15 volts |
| O/G | 20 volts |

1.9.1 Track Voltage Adjustment

The actual track voltage supplied by the DB200+ can be adjusted. In most cases, you will not have to make any adjustments.

Refer to www.digitrax.com/appnote_trvolt.php for instructions on how to measure your track voltage.

If the DB200+ output voltage is not within .2 volts of other boosters, then proceed as follows:

In order to make a voltage adjustment, you must open the DB200+ case (this will not void your warranty).

1. Remove the DB200+ input power and Terminal Booster Plug.
2. Remove the two screws on the top and bottom of each side of the case.
3. Slide the gray front panel off the DB200+.
4. Be careful to avoid disturbing components other than the ones described below.
5. Reconnect the Terminal booster Plug and Loconet cables to the DB200+.
6. Reapply power to the DB200+.
7. Locate the small yellow trimmer potentiometer behind the Loconet B Jack and the Scale Switch.
8. Use a small screwdriver to turn the potentiometer either clockwise to increase track voltage or counter clockwise to decrease track voltage.
9. Once you are satisfied with the voltage setting, reassemble the DB200+.

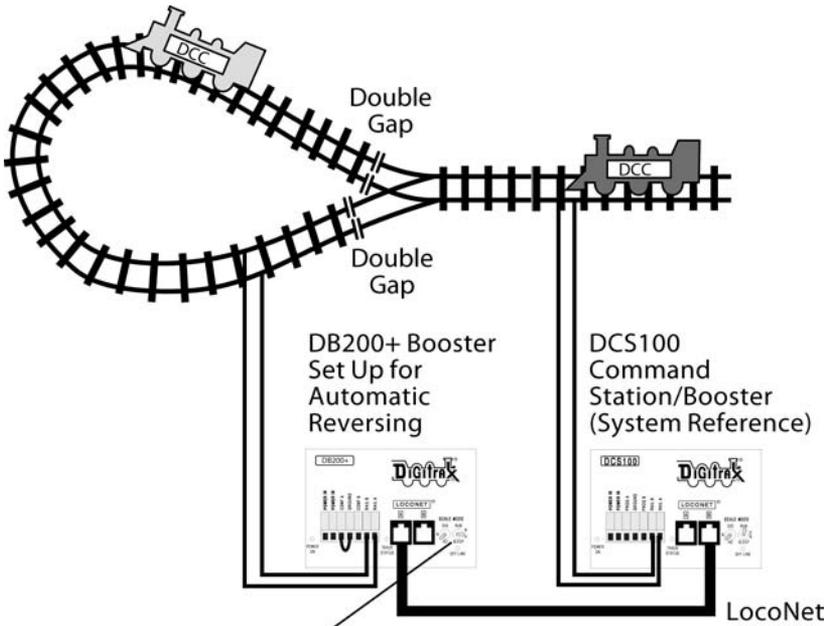


1.9.2 Reverse Loop Installation

To make the DB200+ an Auto Reversing Booster follow the following steps:

1. Remove input power from the DB200+ by turning off the Input Power Supply.
2. Move the Mode Switch to the center P/R or OP position
3. Restore power to the DB200+ by turning on the Input Power Supply.

Use the below diagram as a guide to configuring the DB200+ for Reverse Loops. Please note that for Auto Reverse applications the DB200+'s Mode Switch is set to the center P/R or OP position. Also note the DB200+ track connections are NOT directly connected to the track of any other booster or command station on your layout. In every case Digitrax requires block type (double gapped) isolation for each booster and command station.



Set MODE SWITCH to either P/R or OP
(depending on your booster front panel graphic)

Note: Some wiring omitted for clarity



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2.0 Troubleshooting DB200+ Shutdowns caused by heat

If the DB200+ booster shuts down frequently:

1. Move the DB200+ so that the heat sink has a flow of cool air.
2. Place the DB200+ out of direct radiant heat like sunshine or a room heater.
3. Try direct cooling by using a small fan to blow cool air onto the heat sink.
4. Lower the track load current.
5. Reduce the input voltage from the transformer.

If the DB200+ beeps 4 times and shuts down briefly and then comes back on again, it is probably being run too close to its pre-set current limit. To solve this problem, reduce the track current load by setting up additional power districts to provide more total power for the layout.

For further information, contact Digitrax Tech Support or the Tech Support Depot at:

<http://www.digitrax.com/help>



DB200+
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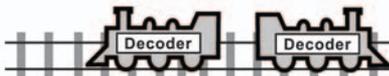
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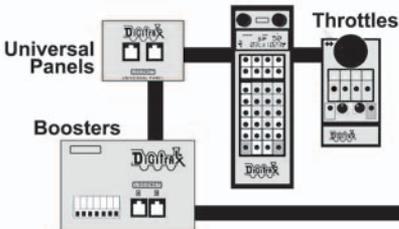
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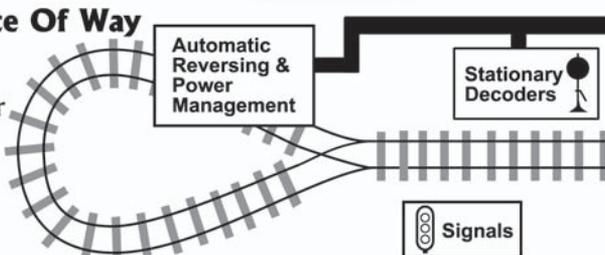
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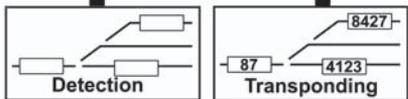
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