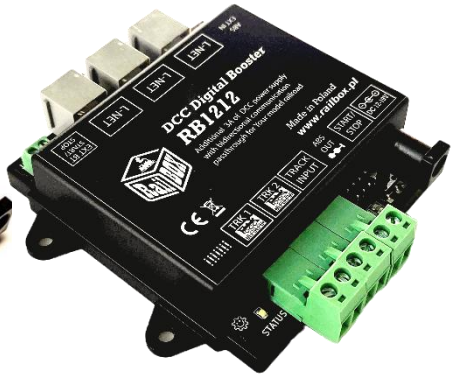
DCC Boosters RailBOX



Content

Introduction

RB 1200 and RB 1210 DCC Booster is designed to control railroad models that are equipped with DCC decoders and accessory decoders. RB 1200 AND RB 1210 is a DCC Booster that supports Railcom® protocol and LocoNet® protocol as well (version with LocoNet® connectors). No other protocols (for example Märklin® Mfx®) are supported.

Important: RailBOX DCC Booster must not be used in systems that operate in a common ground principle; otherwise, it can lead to the damage of the Booster and/or the Command Station.

Download the application RailBOX: Railroad Control
Android iOS

Main functions:

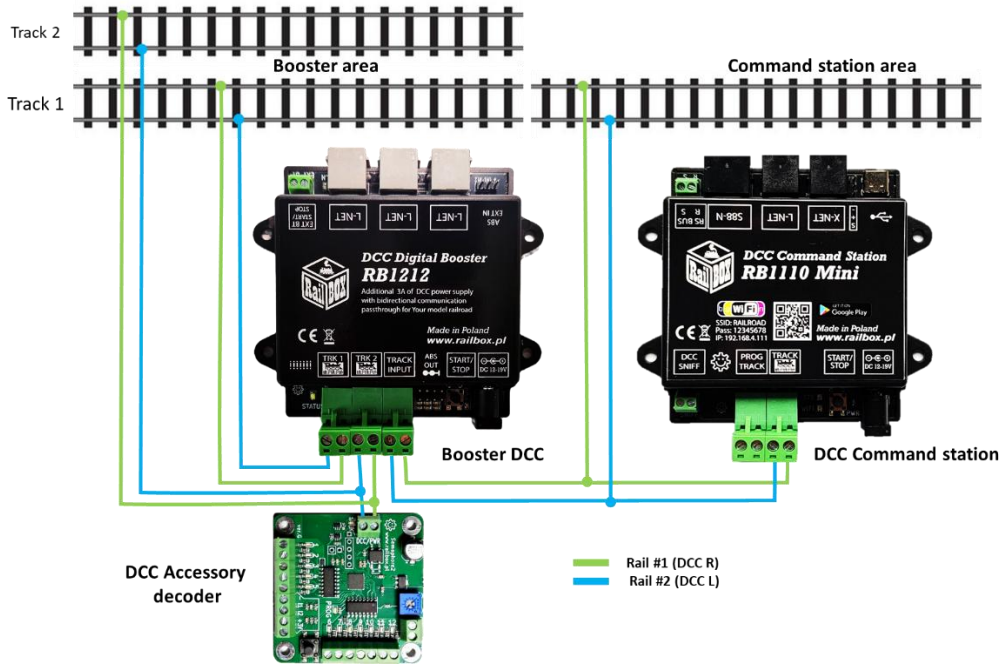
- **Active Railcom® with option to disable**
- **Short circuit detection on tracks**
- **Possibility independently enable / disable (Start / Stop) by Button and synchronize with the status of the Command Station**
- **DCC could be signal taken from the output of the DCC Command station or directly from the tracks**
- **3 LocoNet® outputs (version with LocoNet® connectors) that could be used for connecting Booster to the Command station via LocoNet® bus as well as for connecting manipulators (for example Fredi or PIKO) or following Boosters.**
- **Possibility to update firmware of a Booster via RailBOX: Railroad control mobile app**

Technical parameters:

- **Dimensions**
  RB1200: 90 x 110 x 45 mm
  RB1210: 100 x 104 x 22mm
- **Power supply voltage: 12-24V DC / 3A (Power supply 19V is included)**
- **The DCC output - 17V max 3A**

Connection

Connecting DCC Booster to the track



Note: DCC Boosters RailBOX can be used for controlling locomotives on the separate independent track area; this way each rail should be connected parallelly (wire from left pin output to left rail; right to the right) to the Booster and to the Command Station to avoid a short cut and/or any kind of damage of accessory decoders, during the moment when locomotive will be at both track areas at the same time when passing the gaps.

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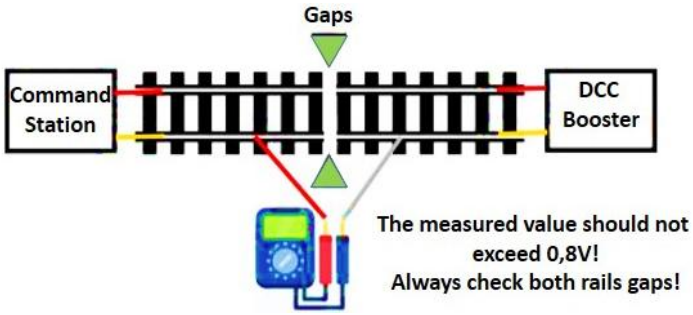
Android iOS

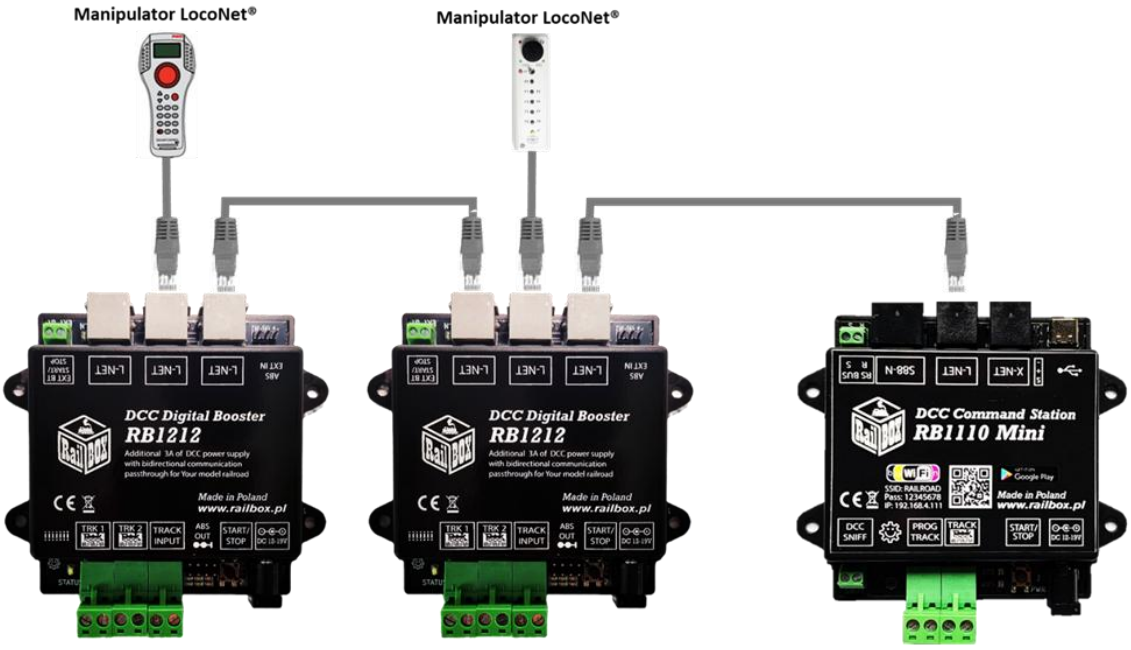


Important: The transition voltage between the Booster and Command station ranges should be less than 0.8 V. This can easily be checked with a multimeter (setting the measuring range to AC alternating voltage). Both rail gaps should always be checked. If the value of 0.8 Volt exceeded, then input voltage of the booster or the voltage setting of the Command Station must be adjusted.

Connection via LocoNet® bus

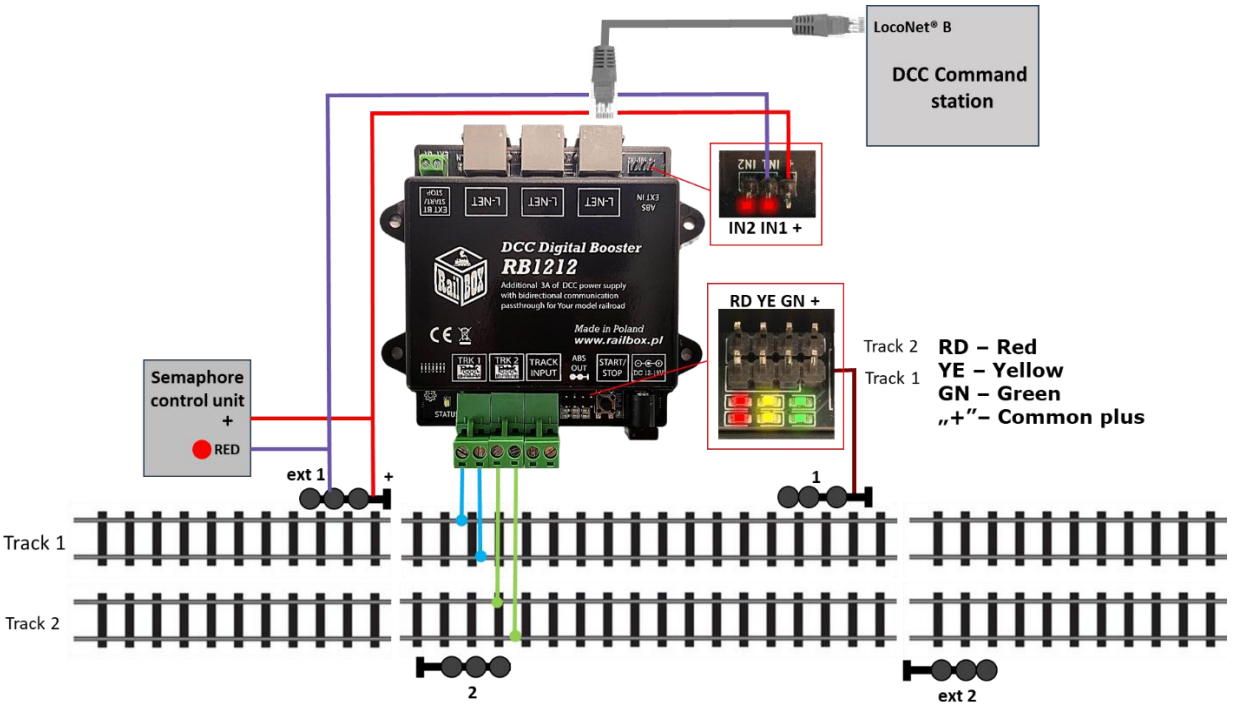
DCC Booster RailBOX versions with LocoNet ® interface and allow it to be connected to the Command station via the LocoNet ® bus, as well as external devices (e.g. LocoNet ® manipulators) following boosters could be connected as shown on the picture below.

Note: If you use another command station but RB1110, all manipulators must be connected directly to LocoNet-T bus.

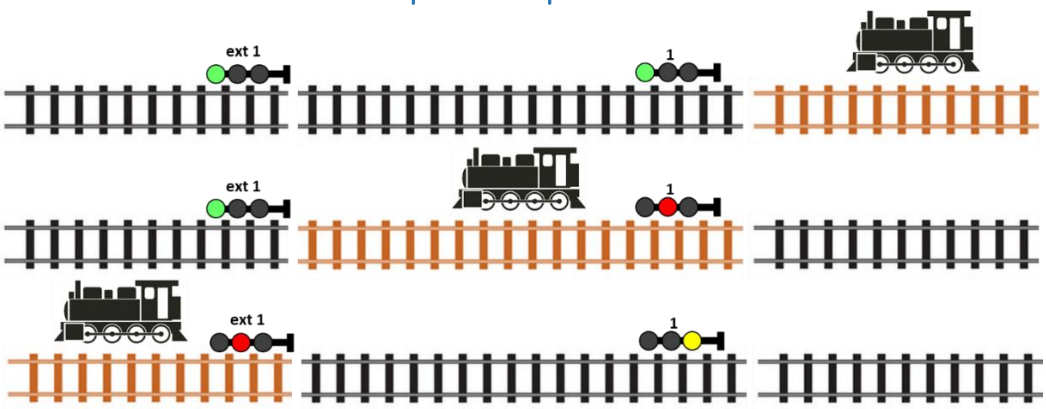


Connection of the automatic blockage system (ABS)

Note: To program the address of the Booster RB1212 need to press the Start/Stop button until the white LED is blinking, then send the dcc turnout switch command with required address from a Command station. After the address is assigned, it is possible to see the occupancy status of the track area as well as to see the exact dcc address of the locomotive by which the track area is occupied shown on the "Feedback" type elements on the map of RailBOX Railroad control app.



ABS operation possibilities



CV configurstion table for RB1212 Booster

Note: Programming of all CVs of **RB1212 booster is possible only via locomotive with 9999 dcc address in programming mode (White status LED is blinking). To enter/leave the programming mode press the Start/Stop.**

CV	Value	Default value	Description
1	1..20	0	Decoder address
7	0..255	0	Decoder firmware version
8	0..255	172	Manufacturer code / Decoder reset: Manufacturer code / Writing 1 or 8 resets the decoder to factory defaults
110	0..100	12	Product code 1: Product code 1, read-only. Value X of the product code in RBXXYY format

CV	Value	Default value	Description
111	0..100	12	Product code 2: Same as CV110
112	0..1	0	Enable signal blocks (SBL): Enable SBL (Automatic Line Block) function
113	0..1	0	Track polarity inversion: Enable DCC signal polarity inversion on TRK1 and TRK2 outputs
114	bit		External button configuration
	0	0	Button mode: 0-bistable, 1-momentary
115	0..255	249	Status request address (LSB): Switching this accessory address causes the module to re-send all input states. Default address is 1017
116	0..7	3	Status request address (MSB): Same as CV115
117	0..255	30	Address hold time: Address hold time in signal block, value * 100ms
118	0..2	0	External button action: Action triggered by the external button.\n0=none\n1=State feedback report (Module input 3) \n2=Command (START/STOP) via LocoNet
119	0..2	0	Track short circuit action: Same as CV118
120	0..255	5	Track section 1 release time: Release delay time for section 1 in seconds
121	0..255	5	Track section 2 release time: Same as CV120
130	0..255	255	Brightness output GN sig.1 (SBL): Brightness of the green lamp of the first SBL signal
131	0..255	255	Brightness output YE sig.1 (SBL): Same as CV130
132	0..255	255	Brightness output RD sig.1 (SBL): Same as CV130
133	0..255	255	Brightness output GN sig.2 (SBL): Same as CV130
134	0..255	255	Brightness output YE sig.2 (SBL): Brightness of the orange lamp of the second SBL signal
135	0..255	255	Brightness output RD sig.2 (SBL): Same as CV134
140	0..255	5	Auto-restart after short circuit: Counts of automatic re-enablings of the booster after track's short circuit detected

DCC Booster RailBOX firmware update using Command station RB1110 or RB1110-Mini

The RB1210 and RB1212 Booster software can be updated via RailBOX: Railroad control app using the RB1110 or RB1110-Mini command station via LocoNet bus.