

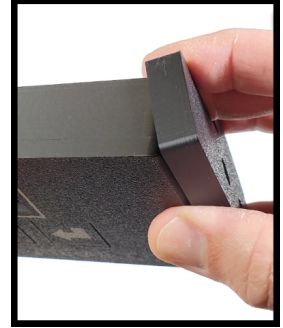
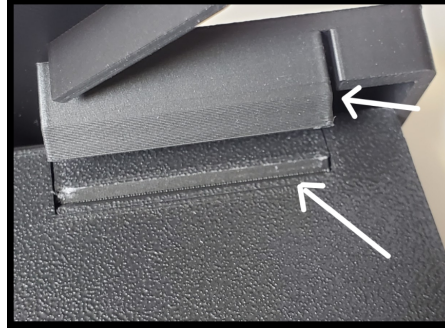


AO RAIL *Speedometer*

Thank you for purchasing the AO Rail Speedometer.

SETUP INSTRUCTIONS

1. Attach right and left side of stand to controller by holding stand at an angle while placing the tab (on back of stand) in the groove (on back of controller) and then press stand onto the controller. The tab on back should flex a little while pushing the stand around the front edge of controller.



2. Plug in the encoder cable and power cable for the included 9 volt power supply.



3. On the AO Rail rolling road, replace one of the rollers with the speedometer roller. Center locomotive wheel with the white line on the speedometer roller. A helpful technique to pre-align rollers when setting locomotive on rolling road: first, set locomotive next to rolling road and align rollers next to each axle, then set locomotive on rolling road and fine-tune roller alignment.



4. An optional bumper accessory is included, which can be helpful for smaller locomotives that may need extra support to prevent locomotive from slipping off rollers. For the bumper to be effective, it needs to be placed in front of the locomotive.



SPEEDOMETER CONTROLLER INSTRUCTIONS

1. VIEW SPEEDOMETER AND ODOMETER: From the initial screen, press the enter button to view speedometer and odometer.



50 mph 1.77 mi

2. SWITCH MPH TO KPH: To switch between mph and kph, press menu button, then press right arrow to scroll to the “select km/h” screen or the “select mph” screen, then press enter.

3. RESET ODOMETER: Press the menu button, then press the right arrow to scroll to the trip distance screen, then press enter.

4. AO RAIL APP WITH THROTTLE, AUTOMATED SPEED MATCHING, AND CV PROGRAMMING

UTILITY: The optional AO Rail App runs on both iPad and Android tablets and works in conjunction with the DCC-EX Command Station. The DCC-EX Command Station is a full featured DCC system that can be setup using the Arduino Mega with the DCC-EX motor shield and wifi shield or the all-in-one DCC-EX CSB1 board (refer to www.dcc-ex.com for more information). To access the AO Rail App, first power on the DCC-EX Command Station with wifi enabled in access point mode, connect a tablet to the DCC-EX wifi, then enter the DCC-EX SSID and password in the AO Rail speedometer on the “SETUP DCC-EX” screen. Refer to the firmware update / wifi settings instructions in section 5 below for how to enter the SSID and password (the same method is used for entering the SSID and password in both the firmware update “SETUP WIFI” screen and the “SETUP DCC-EX” screen). After entering and saving the DCC-EX SSID and password, go to the speedometer “CONNECT DCC-EX” screen and press the enter button. Once the speedometer successfully connects to the DCC-EX wifi, the speedometer's IP address will be displayed on the speedometer screen. Once both the tablet and the speedometer are connected to the DCC-EX wifi, open the browser on the tablet (Safari on iPad and Chrome on Android) and enter the speedometer's ip address. The AO Rail App should then load in the browser on the tablet. There is a throttle section for basic throttle control, a speed matching utility where you can create speed curves and automate speed matching, and a utility for reading and writing CV values. For best performance and compatibility, the tablet OS and browser should be updated to the latest versions. Visit the AO Rail website www.aorail.com for instructional videos.

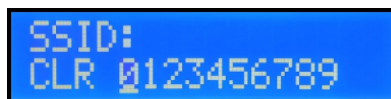
5. FIRMWARE UPDATE / WIFI SETTINGS: To update firmware, press menu, then press the right arrow until you see the “setup wifi” screen, then press enter. Press right and left arrows to scroll through the characters in each character set, then press enter to select a character or to select a save option.

At any time in the wifi setup screen, press the menu button to switch between the following character sets and options:

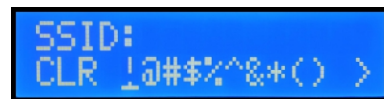
letters >> numbers >> special characters >> save settings >> exit without saving



SSID:
CLR aBbCcDdEe >



SSID:
CLR 0123456789



SSID:
CLR _@#%&*() >



SSID:
SAVE PRESS ENTER



SSID:
EXIT PRESS ENTER

Selecting CLR will clear the previously entered character:



SSID:
CLR ← aBbCcDdEe >

After saving the wifi SSID and password, press the right arrow to scroll to the “update firmware” screen, then press enter. If you have any questions, please contact us at support@aorail.com.

If you would like to be notified of new accessories for the AO Rail Speedometer or firmware updates, please send your email address to updates@aorail.com.