

## Testing using your DCC System

Use your DCC system to operate the WFG-82 via its accessory addresses as shown in the DCC Address column on the Light Channels screen. Consult your DCC System instructions to find out how to operate an accessory.

## Getting more out of your WFG-82

Consult the full manual for information about the features available. For example, you can:

- Use the Home Net option. That way you can leave your phone or tablet connected to your home network. When you power up your WFG-82, your phone or tablet will connect much more quickly.
- Explore the WFG-82 web pages to see the features available.
- Use the WFD-60 Gateway to control switches using IOS WiThrottle, Android Engine Driver, TCS UWT-100 or your DCC system, while also driving trains.
- Use Wifitrax Tower Operator to configure a schematic control panel to control your lights or signals.
- Access the WFG-82 Manual at <http://www.wifitrax.com/manuals/WFG-82/WFG-82-Manual.pdf>

## More Information

<http://www.wifitrax.com/help/TowerOperator/help.html>

Other resources: <http://www.wifitrax.com/appNotes/howToArticles.html>

**This product is not a toy. Keep away from children. It is not suitable for use by persons under 14 years of age.**

**Warning: This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.**

WifiTrax products are made in Australia using globally-sourced components and services. Check our website for warranty information.

# WifiTrax

[www.wifitrax.com](http://www.wifitrax.com)



## WFG-82 Getting Started Guide

This document is online at <http://www.wifitrax.com/appNotes/quickStart/WFG-82-Quick-Start.pdf>. Please consult the full WFG-82 manual for much more detail at <http://www.wifitrax.com/manuals/WFG-82/WFG-82-Manual.pdf>

### Package Contents

1 x WFG-82 Module in Static Shielding Bag, this document, mounting Kit

## WFG-82 8-Way Lighting/General Controller

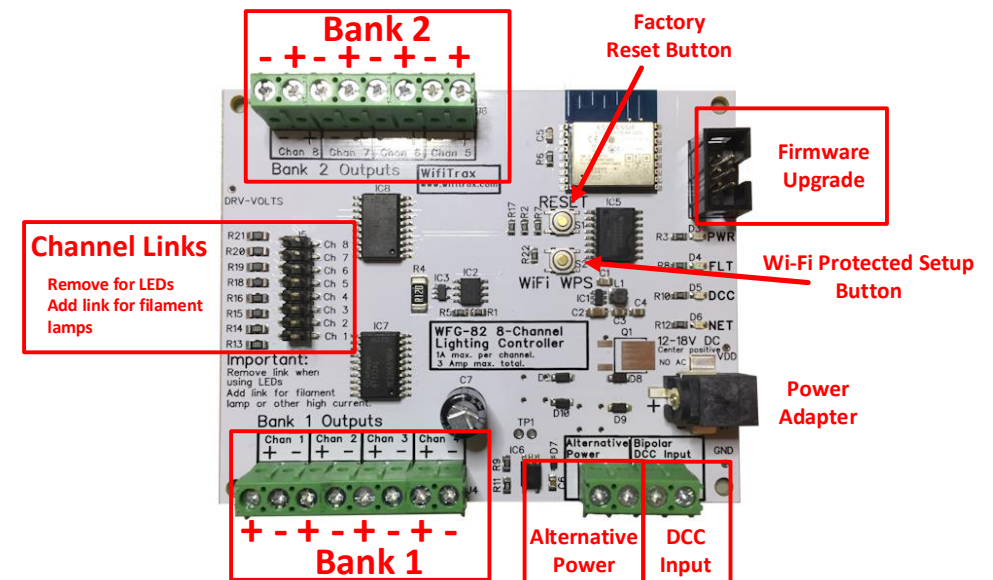


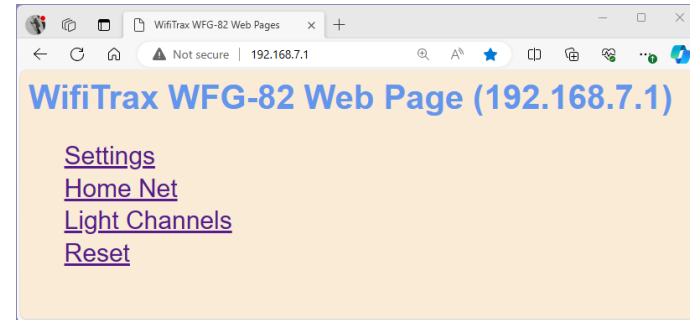
Figure 1 WFG-82 Connections

The WFG-82 provides control of 8 channels connected to LED or filament lights. It can also be used for other devices requiring a DC output up to one amp per channel or 3 amps total. The LEDs can be individual lights or LEDs included in signals with a **common cathode**. For signals with common anodes use the WFG-84. You can control the LEDs either using the WFG-82's in-built web page, using a Wifitrax WFD-60, WFD-27, or the Wifitrax Tower Operator Application on Windows or Android. The LED channels can also be controlled via a DCC input connected to any DCC Command Station/Booster using the accessory addresses programmed using the WFG-82 web pages.

## Testing using the WFG-82 Web pages

Once you are connected to the module's network, open a browser such as Safari, Chrome or Edge and type the following in the URL bar followed by the Enter or Go key: 192.168.7.1 This is the IP Address of the WFG-82 web pages when you are connected to its wftrx\_WFG82\_1\_XXXXXXX\_7 network. You will not be able to access these pages until you are connected to the module's network.

- (1) You will see the Main Menu page as below:



- (2) To test the lighting channels, click or tap the Light Channels option. You will see the screen below. The names of each channel default to the serial number plus the channel number as shown:

Channel	Name	DCC Address	State
0	<a href="#">SN22800104(Ch0)</a>	100	Off
1	<a href="#">SN22800104(Ch1)</a>	101	Off
2	<a href="#">SN22800104(Ch2)</a>	102	Off
3	<a href="#">SN22800104(Ch3)</a>	103	Off
4	<a href="#">SN22800104(Ch4)</a>	104	Off
5	<a href="#">SN22800104(Ch5)</a>	105	Off
6	<a href="#">SN22800104(Ch6)</a>	106	Off
7	<a href="#">SN22800104(Ch7)</a>	107	Off

Save as Default

You can change the names and DCC addresses by clicking on them.

- (3) Assuming your lights are connected properly, tapping the button in the State column will toggle the light on and off.

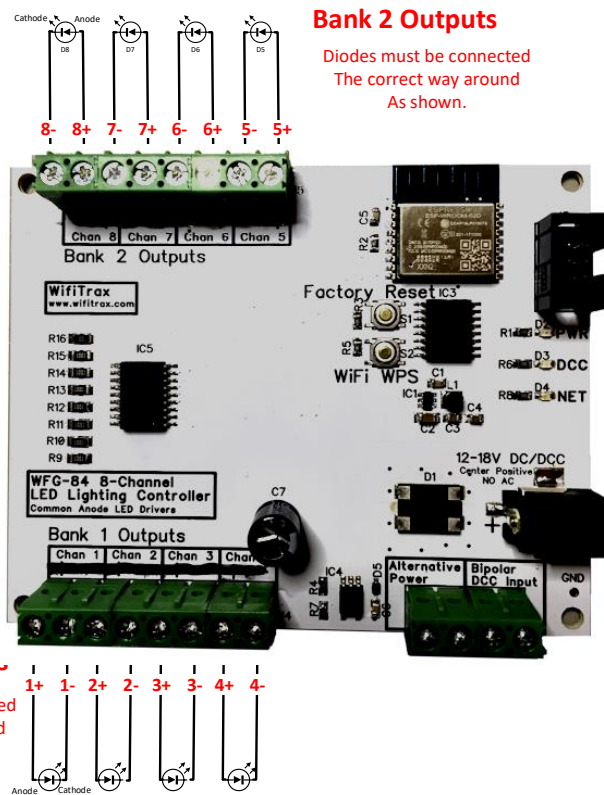


Figure 2. Connection Diagram for LED Lights or filament lamps

Filament lamps are connected the same way as LEDs in Figure 2 but of course, the direction does not matter.

**(6) CHECK YOUR WIRING!** Turn on the power. You may test the unit using WFG-82 Web Pages described in the next section. Later you may decide to use the Wifitrax WFD-60, the Wifitrax Tower Operator App or a DCC Command Station/Booster such as WFD-27, WFD-28 etc. or some other manufacturer's DCC system. Refer to the Tower Operator Quick Start, or Full Help Pages for instructions on setting up a schematic control panel on your Windows or Android computer or tablet.

## Testing and Configuring your WFG-82

You can test and configure the WFG-82 using its web pages which are accessible from any browser on IOS, Android or Windows.

### Connecting using an Apple IOS Phone or Tablet

(1) Tap the Settings icon on your iPhone or iPad



(2) Tap Wi-Fi on the left-hand menu. Under Other Networks on the right, the list should include one like wftrx\_WFG82\_1\_XXXXXXXX\_7, where XXXXXXXX is the serial number of your unit that appears on its label. Tap that Wi-Fi Network. **You must always connect to this Network to access the WFG-82 web pages** until you operate in home-net mode.

### Connecting using Android

(1) Press the Home button and tap the Settings icon:



(2) Tap Connections, then Wi-Fi and select the module's network as above.

### Connecting using Windows

On your Windows 10 desktop or laptop, click the networks icon in the system tray and select the network described above.

Some signals may contain multiple LEDs or filament lamps such as Red and Green or Red, Amber and Green. Usually one side of each LED will be connected together and to a common wire. WFG-82 only supports LED groups with *Common Cathodes*, i.e. the negative side is common. See Figure 3 and Figure 4. You can use the WFG-84 for those with common anodes.

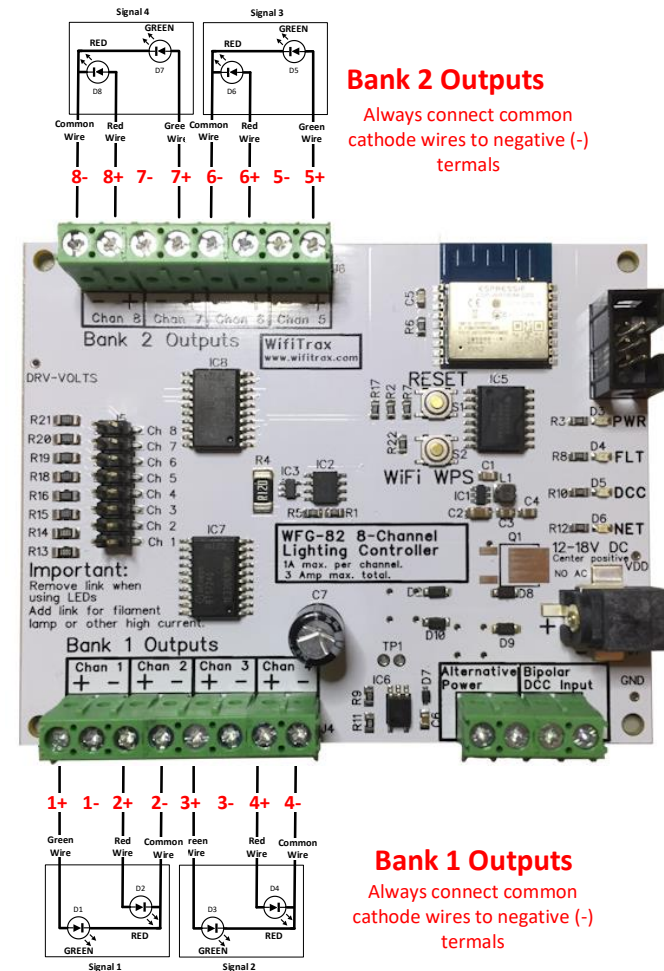


Figure 3. Connection Diagram for 2-LED Signals with Common Cathodes

If you have signals with multiple filament lamps with one side common, there is no such thing as a common cathode or anode. They will be wired the same way as Figure 3, but of course the direction is irrelevant.

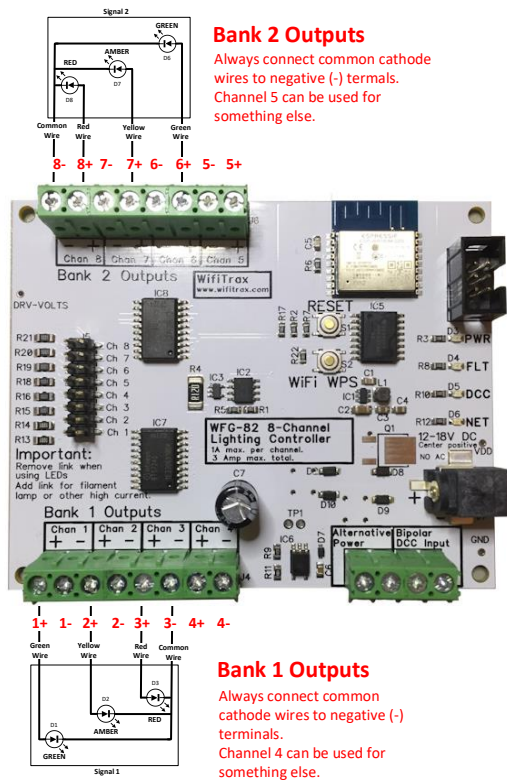


Figure 4. Connection Diagram for 3-Light Signals with common cathodes

## Installation Instructions

- (1) WFG-82 will control two types of light: Light Emitting Diodes (LEDs) and filament lamps such as “Grain of Wheat” (GOW). You can make the lights brighter or dimmer by using a higher or lower power supply voltage such as 15 Volts instead of 12Volts. The module contains 1K (1000 Ohm) series resistors to protect LEDs from excessive current. When using filament lamps add one of the links provided to the correct channel (see Figure 1). When the light for any channel is turned on, the full power supply voltage, e.g. 12V or 15V is placed across the LED and series resistor combination. With the link in place, the whole power supply voltage is placed across the lamp. Another way to make LEDs dimmer would be to include an additional series resistor connected between the LED and the WFG-82 terminal.

You can also combine channels to control features with multiple lights like signals. Modules such as the WFD-60, WFD-27 and the Tower Operator software allow you to assign channels to the signal device on the screen once the channels are physically connected.

- (2) Wire the WFG-82 to your lights or signals according to Figure 2, Figure 3 or Figure 4. If you have multiple types of devices, you can take account of more than one figure. Be sure to connect common wires to the negative side of each of the eight channels, i.e. the cathode of the LED. In the LED circuit symbol, the cathode is the bar as in Figure 2. With filament lamps, the direction does not matter.
- (3) The power adapter must supply between 12 and 18 Volts DC with a Barrel Plug (2.5mm I.D. x 5.5mm O.D. x 9.5mm). A recommended power adaptor is available from WifiTrax: <http://www.wifitrax.com/products/product-PA15-43-1-detail.html> You can also connect to the Alternative Power connectors. **DO NOT CONNECT POWER TO THE WRONG TERMINALS. THIS MAY DAMAGE THE UNIT BEYOND REPAIR.**

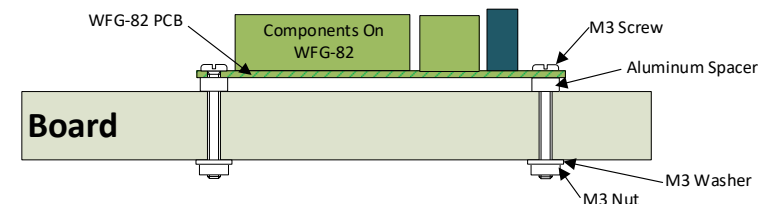


Figure 5 Mounting Suggestion

- (4) Optionally connect a bipolar DCC signal to the Bipolar DCC Input connections shown in Figure 1. If you are using DCC to control *and* provide power to the WFG-82 you should connect the DCC signal also to the Alternative Power connectors and omit the Power Adapter.
- (5) Mount the unit to your baseboard using the four M3 metric screws, nuts and spacers provided. The component side of the module should face away from the board as in Figure 5. If you omit the spacers be sure not to tighten screws so that the unit bends. Take care that no part of the unit touches any metal as this may cause a short circuit and result in permanent damage. Do not mechanically stress or bend the module as this may cause permanent damage. **Take care to ensure that there is adequate ventilation to avoid overheating.**