

Installation & User's Guide

WiFi Gateway (MGL iEFIS)

Model: WR2

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2 Introduction

Microkit Wi-Fi Gateway device is designed to Wi-Fi enable MGL iEFIS

It connects to MGL iEFIS (Challenger with iBOX, LITE, and MX1) using RS232 port and offers

- Flight Plan Transfer using WiFi
- ADS-B (IN) for weather/traffic/airport data if connected to GDL-90 external ADSB Receiver.
- Other files format (once iEFIS firmware is updated)

The Wi-Fi Gateway for MGL offers a built-in browser interface to transfer files. Once connected to the Gateway Wi-Fi access point, users are able to use any browser to transfer/upload files, which in turn are pushed to the connected EFIS.

Support for several EFB Apps to allow for direct flight plan transfer from these Apps is underway, and users are able to update the gateway firmware using the WiFi interface.

3 Specifications

Voltage Supply: 9V-28V (30V MAX)

Current consumption: 80mA Nominal (120mA Peak) @ 12V

Operating Temperature: -4° F (-20° C) to +140° F (60° C)

Storage Temperature: -4° F (-20° C) to 185° F (85° C)

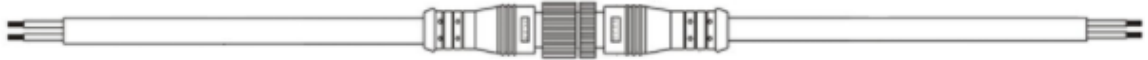
Weight: 2.8 oz (80 gm)

Dimensions: 3.9" (100 mm) (L) x 2.0" (51 mm) (W) x 1" (25 mm) (H)

4 Installation

4.1 Wiring

The unit is supplied with a 4-wire quick-disconnect waterproof connector.



RED	Aircraft Power (+12V/+24V)
GREEN	Aircraft GND (Use same point as iEFIS GND)
BLUE	WiFi Gateway TX (Connect to iEFIS RX pin)
YELLOW	WiFi Gateway RX (Connect to iEFIS TX pin)

Shielded 24 AWG wires are suitable.

It is recommended that the Gateway be installed behind the panel next to the back of the MGL iEFIS. If it is required to extend the wiring to reach MGL, use 24 AWG Aviation wiring and the length should not exceed 25 ft of wiring for RS232 connection. Connect the RS232 cable shield to a ground point from one end.

For Gateway GND (ground), use the same point/location connected to the iEFIS GND. The Gateway does not require its own Circuit Breaker, it can be shared with non-essential equipment such as USB Chargers or others. If a dedicated Circuit Breaker is going to be used, use a 1A circuit breaker or inline fuse.

4.2 Mounting

The Gateway unit includes mounting flanges.

As the Gateway is very light, it can be secured with cable ties to any location, at any direction/orientation. It can also be secured to a bundle of wires; do not secure the Gateway to a bundle of wires if the bundle contains high current cables such as Alternator cable, large Battery cable or strobes wiring.

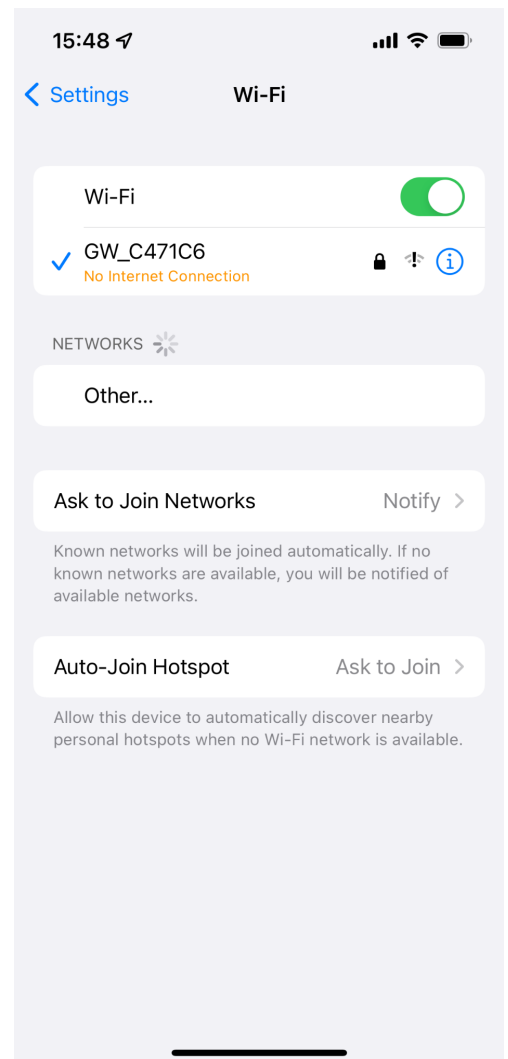
5 Wi-Fi Connection

The WiFi Gateway for MGL uses a Wi-Fi connection to allow connecting to the ADS-B IN Receiver and to perform Flight Plan Transfer.

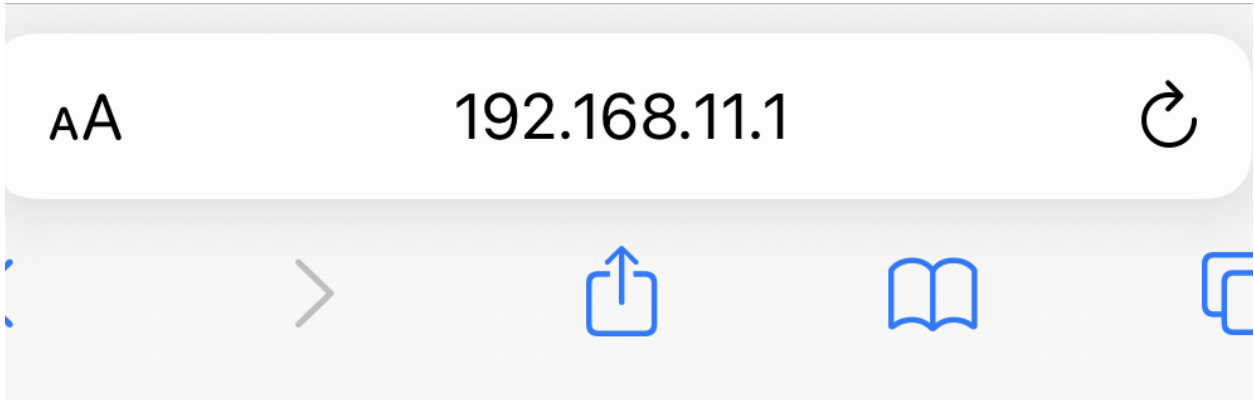
Use your device Wi-Fi Search and look for **GW_XXXXX**. The XXXXX is the unique serial number of the unit.

The default Wi-Fi Password: **wifigateway**

The Wi-Fi System is designed for the Phone screen, but can be used with PCs/Laptops and Tablets such as iPads.



Once connected, use your device Browser (Safari / Chrome / others) to connect to the system. Input 192.168.11.1 on the browser.



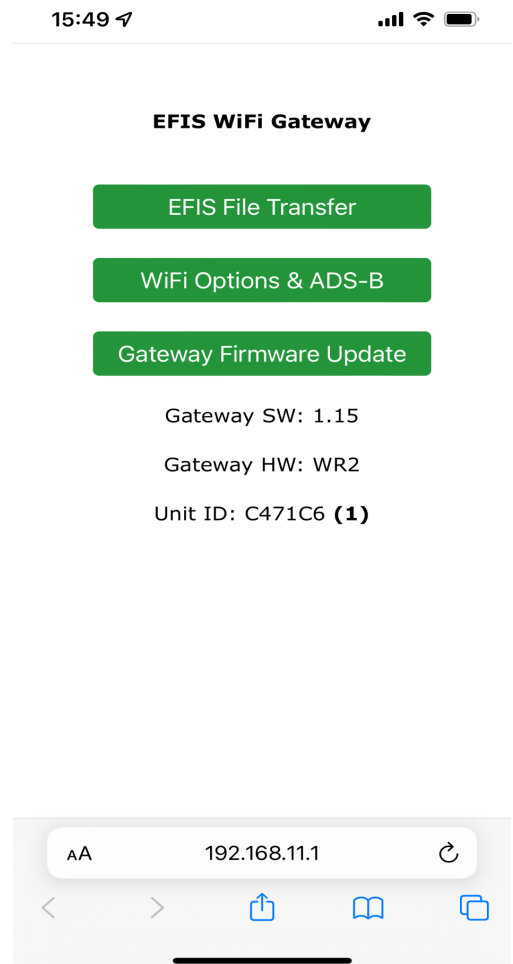
Note: This local Gateway IP can be changed in the event an ADS-B Receiver is using the same network range (192.169.11.x).

6 Wi-Fi Menu

6.1 Main Page

Once connected, the main page shows the main menu.

This page also shows the Software/Hardware versions installed along with the unit ID.



6.2 EFIS File Transfer

Use this button to select a flight plan file to be sent to MGL iEFIS. This currently supports GPX, FPL or native ERT MGL format. Other files can also be sent when supported by iEFIS firmware.

A green rectangular button with the text "EFIS File Transfer" in white.

6.3 WiFi Options & ADS-B

ADSB WiFi Scan button allows searching for the ADSB Receiver and then connecting to it.

Once connected successfully, the WiFi Gateway always tries to connect to this ADSB Receiver once powered and keeps trying continuously every 30 seconds if it was not initially detected or found (such as if the Gateway is powered before the ADSB Receiver).

See Section 7 (Usage Notes) for operation when an ADSB Receiver is connected to the Gateway.

Reset ADSB WiFi button deletes the saved ADSB Receiver connection details in the event that the previously selected ADSB Receiver is no longer available.

15:50 ↗



ADSB Options

ADSB WiFi Scan

Reset ADSB WiFi

ADSB Stats

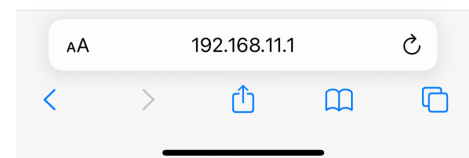
Own WiFi Options

Change Local WiFi Name

Change Local WiFi IP

Reset Local WiFi

[Back](#)



ADSB Stats button shows statistics of the number of ADSB messages received since current power on. (if connected to an ADSB Receiver)

See Section 7 (Usage Notes) for operation when an ADSB Receiver is connected to the Gateway.

ADSB Messages

Connected to: stratux
with Address: 192.168.10.36

Message Type	Received Counter
Heartbeat	1486
Ownship	1369
Traffic	72263
Uplink	0
Misc	50951

Own WiFi Options buttons allow changing the local Gateway network name & password, changing the local IP, and resetting the local WiFi name/password to factory default.

When changing the password, make sure at least one of your devices (phone or iPad) saves the new password and can connect to the unit again without asking for the password. If you forget the new password, the only way to reset it is either by using a device (phone or iPad) that already saved the password and reset using this page or by returning the unit back for firmware re-programming. We have no way of knowing your new password if you are unable to connect to the unit.

Own WiFi Options

Change Local WiFi Name

Change Local WiFi IP

Reset Local WiFi

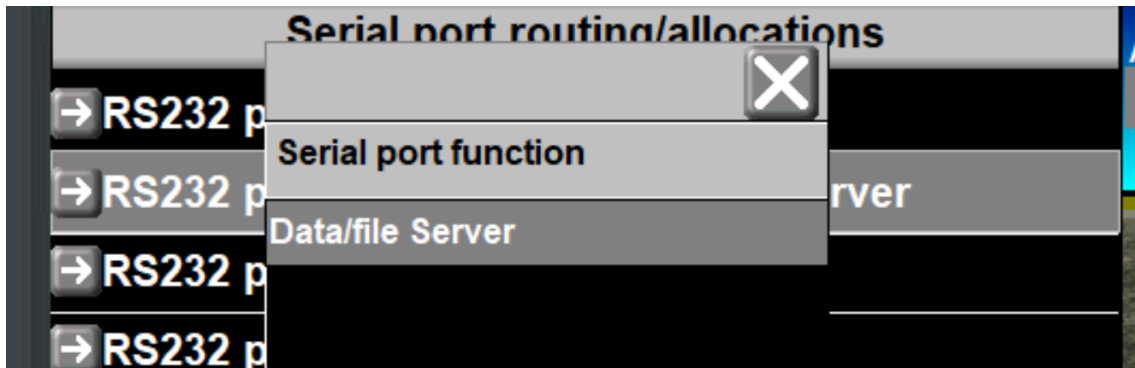
6.4 Gateway Firmware Update

The firmware for the WiFi Gateway can be updated using this button once new features and enhancements are made available.

Gateway Firmware Update

7 Usage & Notes

Using MGL menus **iEFIS Menu**→**System setup menu**→**Serial Port routing/allocations**. Select Data/file server option for the used RS232 Port.



Once the Gateway is hard-wired using the configured Data/file Server RS232 Port to an MGL iEFIS; iEFIS menu shows the Gateway IP by going to MGL:

iEFIS Menu→**System setup menu**→**Setup LAN, WiFi and Wires**



Click on the “**Microkit WiFi Gateway details**” to see the IP of the Gateway (our Free iOS App also shows the Gateway IP when transferring a flight plan).

“Accept Flightplans” also needs to be selected. Other file formats are also shown. Some or all of the other files options are not currently accepted by the current iEFIS firmware and will be available as new firmware is released.

7.1 Stand-Alone (Not connected to an ADS-B Receiver)

The WiFi Gateway for MGL creates a built-in WiFi Network (SSID) that allows devices (Phones / Tablets / PCs) to connect to this WiFi network and be able to use any browser (Chrome / Safari, etc.) to open the menu for configuration and File Transfer to MGL.

The default IP for the Gateway is 192.168.11.1 unless configured differently.

7.2 Dual-Mode (connected to an ADS-B Receiver)

The WiFi Gateway for MGL supports all ADS-B Receivers that transmit GDL-90 protocol data.

Once configured to connect to an ADS-B Receiver; the Gateway becomes part of the ADS-B Receiver network. This means other devices such as Phones/Tablets/PCs that are also connected to the ADS-B Receiver WiFi network are also part of the same Gateway network and able to connect to the Gateway menu using the Gateway IP provided by the ADS-B Receiver.

The Gateway IP that is part of the ADS-B Receiver network can be seen using the MGL menu as mentioned above. This IP normally does not change once all devices are connected to the ADS-B Receiver WiFi network.

The WiFi Gateway still maintains its own local network at the same time and users are able to switch to that network if desired however, it is recommended to remove the Auto-Join settings for the Local Gateway WiFi network so all your devices stay connected to the ADS-B Receiver WiFi network as this is the intended operation to also be able to receive ADS-B data on these devices as well.

7.3 EFB Apps Integration

A free Microkit iOS App is available to allow for direct flight plan transfer from iOS EFB Apps such as ForeFlight and any EFB that shares an FPL flight plan. Check our website or MGL dealer website for a link to the iOS App.

Ask your MGL dealer for other EFB Apps.