

## Overview

RC-Timing 2019 has the ability to broadcast results directly to the internet. Results are sent direct to our new results site: [rc-results.com](http://rc-results.com)

Results are broadcast 100% live, so as well as seeing results from past races, drivers can monitor the current race from the pits to see which race is running, and what the current results for the race are.

Use of the results broadcast service requires a subscription, which can be purchased from [rc-timing.com](http://rc-timing.com).

## Limitations

Currently these items are NOT broadcast. These will be added in later updates:

- Heat and final listings.
- Overall results (end of round, multi-leg finals).
- Championship results.
- Open practice results.
- Corrections to results (penalties etc).
- Races that failed to upload due to internet connection issues (i.e. it doesn't retry the failed races).

## RC-Timing Setup

Download and install the RC-Timing 2019 upgrade from the website.

Purchase an RC-Results Broadcast Subscription from the website.

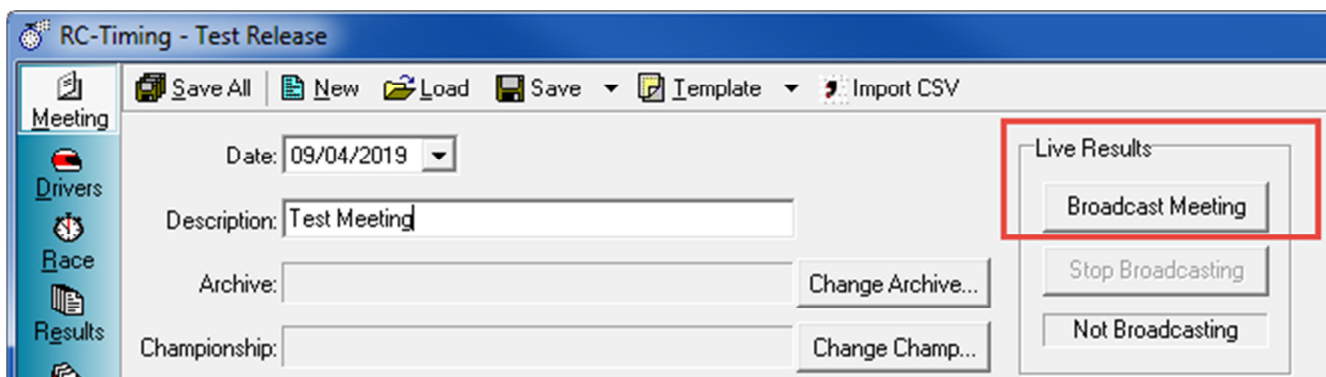
When you receive your RC-Results licence file, save it to the RC-Timing installation folder, which is normally **C:\Program Files (x86)\RC-Timing\**

Save the licence file directly to disk; don't open it in an editor or browser first, as that may corrupt the file.

## Broadcasting a Meeting

To broadcast a meeting, simply click the **Broadcast Meeting** button after entering the meeting date and description:

The broadcast feature will only work from your licenced race control computer.



## Internet Connection

The RC-Timing results broadcast works via the internet, so your race control computer will need a reliable internet connection.

Data usage is relatively low; 80MB for a small club meeting (5 heats), 150MB for a large club meeting (8 heats), and around 200MB for a national meeting with 12 heats. So 2GB of data per month should be enough for even a very busy club.

The connection needs to be 3G ('H') or better for live upload and minimal lag of the 'Live' screen.

These are the options for creating an internet connection on your race control computer:

1. **Purchase a 4G dongle.** You can get both USB and WiFi versions. We recommend the WiFi version; it allows you to position the box for best 4G reception (e.g. on a windowsill if you're in a metal container). You can also share the connection with other devices, such as a credit card reader.
2. **Create a WiFi hotspot** from your phone. This avoids any extra costs, but means you need to leave your phone near the race control computer for the entire meeting. Only really recommended for short club meetings.

## Disabling Windows Update over 4G

### Reasons for disabling Windows Update over 4G

**Preventing Windows Update during race meetings is vital for Windows 8 or newer!**

If Windows Update is enabled on your race control computer, the following may happen:

- Windows Update will use large amounts of 4G data (often several gigabytes in one go).
- The computer will run very slowly while Windows Update consumes all of the CPU and memory.
- The computer may freeze or become unreliable.
- The computer may reboot (even during a race) to install updates!

Windows updates have largely stopped for Windows 7 and older, so these systems are less at risk. But if your computer hasn't been connected to the internet for a long time, it's still advisable to connect it to the internet at home first for several hours before first connecting it to a 4G signal. This should allow it to install updates over Wifi, which will be a lot faster, and avoid using all your 4G data.

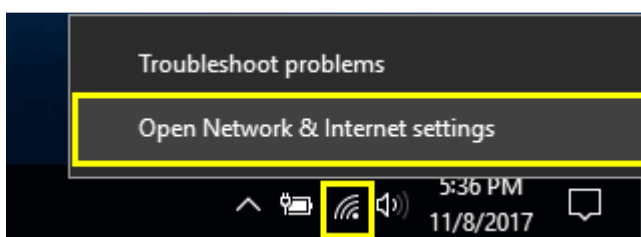
### How to disable Windows Update

On up-to-date versions of Windows 10, it's possible to set a specific network connection as 'Metered'.

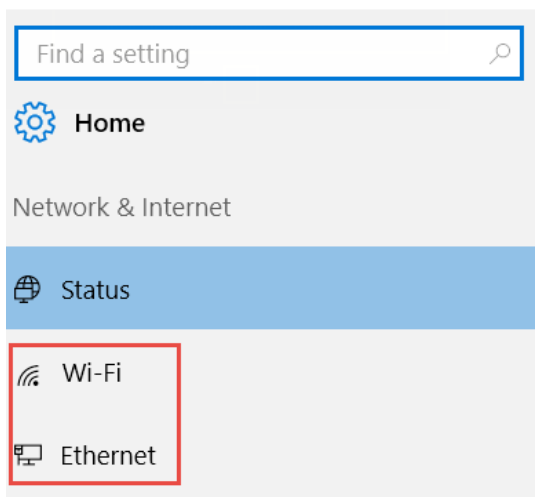
This tells Windows that it's a paid connection, and shouldn't be used for Windows Update.

Windows Update will still run via other connections (e.g. on your home WiFi), keeping your computer up-to-date.

1. Right-click the WiFi (or Network) icon on the taskbar, and click **Open Network & Internet Settings**:



2. If you're using WiFi, or a 4G WiFi dongle, click the **WiFi** option.  
or  
If you're using a USB 4G dongle, click the **Ethernet** option.



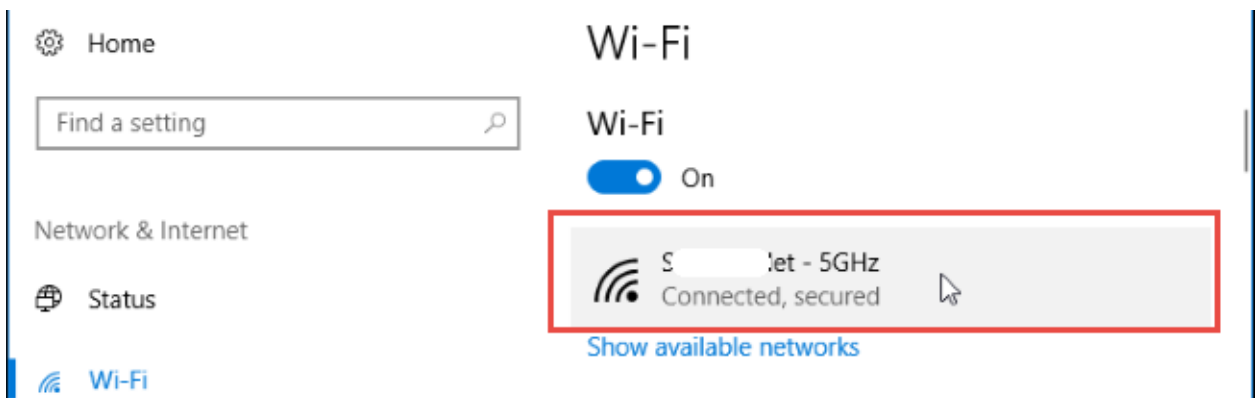
## Network status



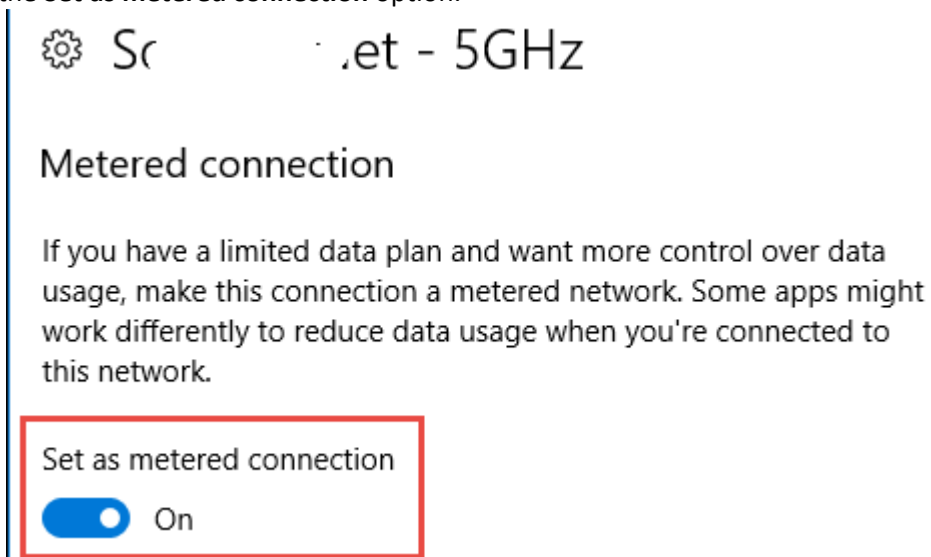
You're connected to the Internet

[Show available networks](#)

3. Click your current connection to bring up the options for that connection:



4. Enable the **Set as metered connection** option:



**This option isn't available on early versions of Windows 10.**

If it's missing, Run Windows Update at home to install updates, you should then have the Metered Connection option available for your 4G connection.