

Tune+ App Manual

123Tune+ App Manual Table of contents

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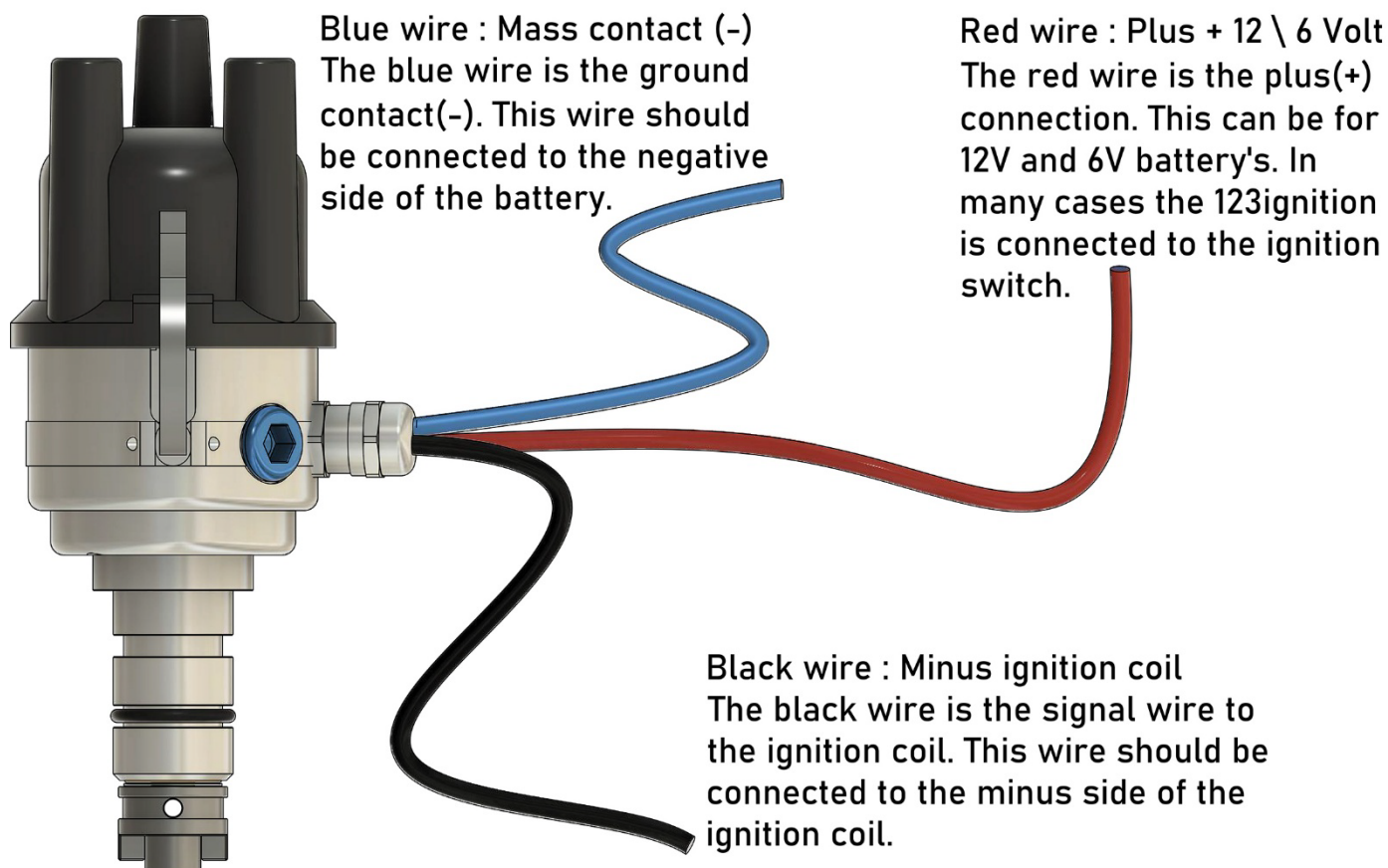
1. 123Tune+ App

The 123\Tune+ app is designed so you can configure and tune the 123\Tune+ ignition systems for classic cars. The app is available for both iOS and Android devices (Smartphone & Tablet) and can be downloaded for free from the respective app stores.

Here is a brief explanation of how the 123\Tune+ app works:

1. Connect the 123\Tune+ distributor to your classic car's engine and make sure all wiring is connected as shown in this manual.
2. Open the 123\Tune+ app on your smartphone or tablet and connect it to the 123\Tune+ distributor via Bluetooth.
3. Once the connection is established, you can use the app to adjust and configure the 123\Tune+ distributor. For example, you can change the ignition timing, adjust the centrifugal/vacuum advance curve and use the anti-theft option.
4. The app also provides graphical views of the ignition timing and other parameters for easy reading and comparison.
5. After you have programmed your desired curve, you can save them to the app and reload them later when you want to use them.
6. In short, the 123\Tune+ app is the perfect tool for tuning your classic car. It offers an intuitive interface and plenty of features to improve and optimise the performance of your engine.

In the following paragraph, we will take a closer look at all the features of the 123\Tune+ app.



2. The blue LED on the 123Tune+ Distributor

On the side of your 123Tune+ distributor is a blue LED, this LED indicates the status of your bluetooth connection, there are 3 possible statuses:

The blue LED is completely off:

This can mean one of two things:

- 1: You have successfully connected to the 123Tune+ App, in this case everything works as it should.
- 2: You are not connected to your 123Tune+ distributor. If this is the case, the 123Tune+ distributor is likely not getting voltage.

The blue LED is on constantly:

If the blue LED is constantly lit, it means that the 123Tune+ distributor is not connected to a device (smartphone or tablet). You can connect to your 123Tune+ distributor in the 123Tune+ app at settings under the heading Devices by selecting the 123Tune+ distributor.

The blue LED is flashing for multiple minutes:

If the blue LED on your 123Tune+ distributor is continuously flashing, we recommend you reset your bluetooth connection. Restart your phone and try to connect. you can find out how to do this in our FAQ.

3. Dashboard

The images on the right show the Dashboard of the 123\Tune+ app. While driving your classic car, the following live data will be displayed here.

– **Crankshaft advance**

Indicates crankshaft advance. The crankshaft advance is a sum of the centrifugal advance, vacuum (MAP) advance and static advance.

– **Time**

The local time on your device.

– **Vacuum**

Indicates the measured vacuum pressure. The scale (bar/kPa) can be changed at Settings.

– **RPM**

The RPM gauge displays crankshaft RPM

– **GPS speed**

Your vehicle speed, based on your device's GPS.

– **Battery voltage**

Indicates the battery voltage.

– **Spark strength in Amps**

– **Temperature of the 123\Tune+ distributor**

On the bottom left you will see a red or green dot, when you see a green dot you are connected to your 123\Tune+ distributor. When you see a red dot you are not connected to your 123\Tune+.

There is also a Tune button on this dashboard. This button can only be operated when the engine is running, more about this function can be found under the heading Tuning function.



4. Programming Curves with the 123Tune+

Are you looking for advance / vacuum curves for your car?

Unfortunately, we do not have the unique curve ready for every car/engine/model. But on our website (www.123ignition.com) we have many example curves for many types.

All our 123\Switch models have a curve table, from there you can make a good basic curve.

What the right advance curves are for your car depends on many factors. In many cases, you can find a lot of information in your car's old documentation about what curve your car has. You can also always consult your local 123ignition dealer, they often have a lot of knowledge about specific brands and curves.

5. Centrifugal & Vacuum Advance

What is centrifugal advance (Centrifugal curve)?

Centrifugal advance (centrifugal curve) is a mechanism used to control the ignition timing of a petrol engine. The purpose of centrifugal advance is to optimise the ignition timing of the fuel-air mixture for efficient combustion.

Having the ignition timing earlier ensures better combustion of the fuel-air mixture because it gives time for efficient combustion. This results in better engine performance.

What is Vacuum Advance (MAP curve)?

Vacuum advance is another mechanism used to control the ignition timing of a petrol engine. It works together with centrifugal advance to optimise ignition timing for different engine speeds and loads. It uses the vacuum in the intake manifold, which is basically always present when the engine is running, but not (anymore) when the throttle is fully open.

The vacuum value is actually a measure of engine load. At partial load, the maximum amount of mixture does not enter the cylinder, to compensate, it is desirable to ignite the mixture earlier. (Vacuum advance) In racing and rally engines, vacuum advance is not used. Vacuum advance can help improve combustion / emission values and make the engine run more economically / smoothly at part-load.

6. Tuning Function

When you operate the Tuning slider the '-' and '+' buttons light up, these buttons allow you to adjust the advance while the engine is running.

By pressing '+' (advance) you can increase the total amount of advance by a maximum of 10 degrees, in increments of 1 degree

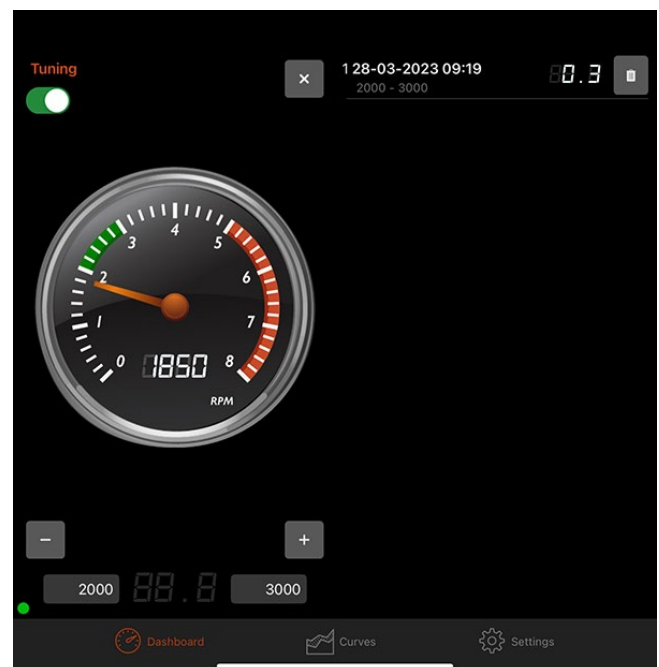
Pressing '-' (retard) allows you to reduce the total amount of advance by up to 10 degrees crank, in 1-degree increments. This function will come in handy if you have your car on a roller bench (power bench), and you want to optimise engine power.

The found advance or delay is not stored in any way, so you will have to remember your findings, and adjust the active advance curve.

Pressing the cross will close the Tuning function.

On the tachometer there is also a green strip, by adjusting the value under the gauge you can adjust this green strip. A time measurement is started in the green strip, this time measurement is displayed below the meter in a digital field. With this function, you measure the time between 2 revs. A nice feature to test the performance of your engine.

At the bottom of the dashboard you can control several screens. We swipe to the left and move on to the next screen, Curves.



7. Curve Settings

You will see an overview of your centrifugal curve and your vacuum MAP curve.

MAP stands for Manifold Absolute Pressure.

The properties of the curves are shown in a graph and a table, so you get a good overview of the curve.

If you receive connection to your 123\Tune+ distributor you can also adjust the advance's curve, this only works when the engine is not running.

With a running engine you cannot save the curve in the 123\Tune+ distributor.

You can adjust the curve and by pressing Done you can also save the curve, but to send the adjusted curve to the 123\Tune+ distributor you will have to switch off the engine, but make sure your ignition is still on otherwise the 123\Tune+ distributor will be de-energised (provided your 123\Tune+ is connected to the ignition) and by pressing the write button the curve will be written to the 123\Tune+ distributor.

Pressing the read button will read the current curves stored in the 123\Tune+ distributor.

Once you receive connection to your 123\Tune+ distributor you will see the "Edit Centrifugal curve" and "Edit MAP curve" buttons will light up orange. By pressing these buttons you can adjust the value of the curve. Here you can enter and adjust your centrifugal advance's curve and your vacuum MAP curve. It is also possible to delete or add a point in the curve.

Once you tap the Edit centrifugal curve or Edit MAP curve buttons, you will be taken to 1 of the screens below.



8. Centrifugal Curve

Static advance:

The value entered does not change the behaviour or progress of the 123\Tune+. The value is only used to adjust the overall advance in the app's dashboard. This can be nice if, for example, the ignition is set to 10 degrees before TDC, but you want to see the advance relative to TDC. The total advance in the dashboard is then the 123\Tune+ advance plus this value.

Enable rev limiter:

Here you can turn your rev limiter on or off.

Rev limiter threshold:

Here you can set a limit for your rev limiter.

The screenshot shows the 'Centrifugal curve' settings screen in the 123\Tune+ app. At the top, there are buttons for 'Cancel' and 'Done'. The 'General' section has a toggle for 'Enable rev limiter' which is turned on. Below this is a 'Rev limiter threshold' field set to '6000 RPM'. The 'Static advance' field is set to '10 °'. The 'Degrees crankshaft' section has a table with the following data:

No	RPM	Degrees crankshaft
1.	500 RPM	0.0 °
2.	1000 RPM	0.0 °
3.	1400 RPM	1.0 °
4.	2300 RPM	3.0 °
5.	3500 RPM	5.0 °
6.	5000 RPM	12.0 °
7.	8000 RPM	12.0 °

At the bottom right of the table is an 'Add point' button.

9. MAP Curve

Enable MAP curve:

Here you can completely disable your vacuum advance curve.

This can come in handy if your car does not use vacuum advance.

Ignore MAP curve below:

Allows you to disable vacuum advance at lower revs. By entering a value, you specify the limit.

The screenshot shows the 'MAP curve' settings screen. At the top, there's a status bar with the time '13:45', date 'Wo 22 mrt.', and battery level '77%'. The screen has a dark theme. The title 'MAP curve' is at the top right, with 'Cancel' and 'Done' buttons. Under the 'General' section, there's a toggle for 'Enable MAP curve' which is turned on. Below it, a slider for 'Ignore MAP curve below' is set to '1500 RPM'. The 'Degrees crankshaft' section contains a list of seven points. Each point has a number, a pressure value in kPa, and an angle in degrees. Points 1 through 6 have trash icons to their right, and point 7 has an 'Add point' button. The data for the points is as follows:

Point	Pressure (kPa)	Angle (°)
1.	0	10.0
2.	29	10.0
3.	30	10.0
4.	50	10.0
5.	87	0.0
6.	100	0.0
7.	200	0.0

10. Curve files

Pressing the Files button takes you to the next screen:

Here you can either import or create a curve. If you create a curve, you can add all kinds of data to the curve. This way, you will remember later what kind of curve you received. You can link the following information to your curve: File name, Author, Brand, Model, Engine and you can also add comments in regards to the curve.

The screenshot shows the 'Curve Files' screen. At the top, there's a status bar with the time '10:26', date 'Wo 22 mrt.', and battery level '52%'. The screen has a dark theme. The title 'Curve Files' is at the top right, with 'Cancel' and 'Done' buttons. Below the title, there are two buttons: 'Import' and 'Create'. Below these buttons, there's a list of curve files. The first file is labeled '1 v8.123' with a date '10-03-2023' below it.

11. Save

You can link the following information to your curve:

File name:

Author:

Brand:

Model:

Engine:

and you can also add comments.

The screenshot shows the 'Save file' screen. At the top, there's a status bar with the time '10:26', date 'Wo 22 mrt.', and battery level '52%'. The screen has a dark theme. The title 'Save file' is at the top right, with 'Curve Files' and 'Save' buttons. Below the title, there's a section titled 'Curve information' with several input fields: 'File name', 'Author', 'Brand', 'Model', 'Engine', and 'Comments'. Each field has a corresponding icon to its left.

12. Settings

Once you can select a device under Devices, you can connect by pressing it. When you connect to your 123\Tune+ distributor for the first time, the password is: 1234

You can always change the password by clicking Change pin and choosing a new password.

Under Immobiliser you can operate the Immobilize your device button, once this function is on, the car will spark a few times at low revs, but will soon stop sparking. This function is used as car theft prevention. The reason the 123\Tune+ distributor does give a few sparks at low revs is to distinguish that the 123\Tune+ is not malfunctioning.

The general settings are explained from A to Z in the following paragraph.

Display always on:

This setting ensures that your screen does not go into sleep mode, This can come in handy if you want to use the 123\Tune+ app for long periods of time without the screen turning off.

Disconnect when in background:

This setting disconnects the bluetooth connection when the app is not in use.

Connect sound:

Allows you to turn off the notification sound when connecting to the 123\Tune+ app.

Rotation:

This feature allows you to set rotation of the dashboard.

Show segment display:

This function puts an additional digital RPM display on the dashboard.

Pressure units:

Here you can choose between different units for vacuum

Car Battery:

With this setting you can set which battery your car receives, a 12V or a 6V battery.

Clock:

The clock function allows you to choose between different time displays. The options are 12-hour or 24-hour.

Include static advance:

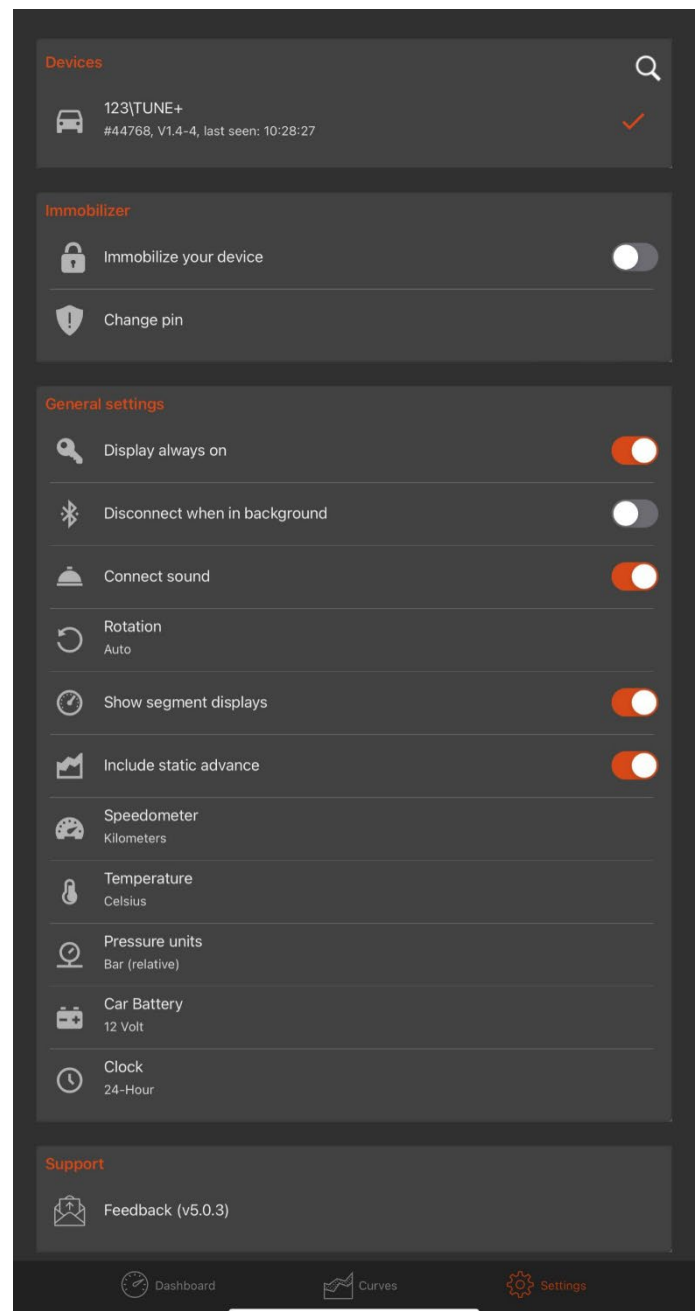
If you turn this setting on, you can set static advance when programming the centrifugal curve. Important note: this is only a graphical representation, you set the actual static advance by manually rotating the 123\Tune+ distributor.

Speedometer:

Allows you to set the unit of the speedometer, you can choose between Kilometres, Miles and Knots. You can also disable this function.

Temperature:

Allows you to adjust the unit of temperature, you can choose between Celsius and Fahrenheit.



13. Useful Links

If you can't figure something out and have any questions, please use the support button to send us an email, and we will answer your questions as soon as possible.

On our website, we have a video on how to programme a curve with the 123\Tune+ app, and how our 123\Tune+ app works.

Once you have a curve, the following tutorial can help you enter it correctly:

The first attached video explains how to create a curve in the 123\Tune+ app.

The second attached video provides more information about the 123\Tune+ app.

123T84RV



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123ignition is proud to announce the first fully programmable Bluetooth ignition! Control your 123\TUNE+ with your iOS/Android smartphone or tablet. The App makes it possible to adjust the ignition curve and shows an electronic dashboard.

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