

BlackHawk Automation

[Get Telegram Bot Token & Chat ID Guide](#)

[GitHub BlackBox](#)

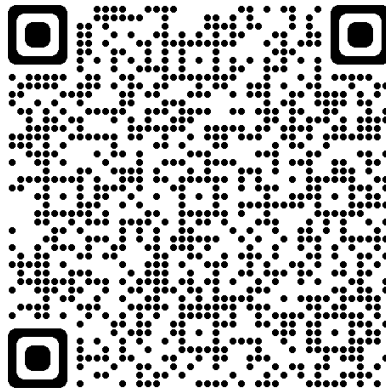
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blackboxvibrationsensor@gmail.com

If you have not yet obtained your Telegram Bot Token & Chat ID then [click here](#).
Then come back to this guide to finish setup

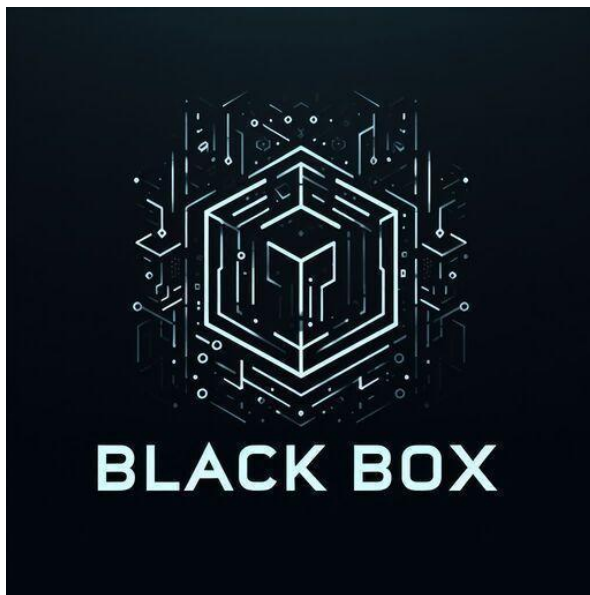
Or use this QR Code



BlackBox Security Sensor

September 04, 2023

Product Overview



The BlackBox is a portable vibration sensor that can send notifications via Telegram Messenger. The connection is made using a wifi connection.

Using any browser while on the same network as the BlackBox, the credentials for the wifi network as well as Telegram are entered during the one time setup. Nothing other than Telegram needs to be installed and Telegram can also be accessed on the web here www.telegram.org.

The BlackBox was intended to secure areas that are not currently monitored by your existing alarm system. Which also means personal items like scooters or backpacks, closets, etc. . It is not intended to replace any alarm system but rather work in conjunction with them. It is also not a tracker, there are robust options already available. It is meant to fill the gaps left by traditional alarm devices with no monthly fee required, just a wifi connection.

If you choose to take the Black Box to another location outside of the range of the wifi ssid it was originally programmed in - it will enter the setup mode again in about 20 or 30 seconds from when powered on. This will allow a new wifi network to be entered or a change in the Telegram credentials from what was previously entered. You can also unplug the wifi router that the BlackBox was connected to. This will also cause the BlackBox to go back to broadcasting the "BlackBox-Setup Portal" in about 20 to 30 seconds.

Credentials Needed For The BlackBox -Setup Portal

The BlackBox-Setup portal is the page where the credentials to connect to the BlackBox are entered. If successful this only needs to be done once.

Here is what we will need to complete the setup :

- (a) **Wifi SSID** - This is the name of the wifi network that we want the BlackBox to connect to.
- (b) **Password** - This is your wifi password for the network (ssid) above. If you don't remember the password, look on the side of your router. If you did not change it from the default then the password you see is most likely the one we want.
- (c) **Telegram Bot Token** - This is the token that we got from the BotFather. This identifies you to Telegram and is unique to you.
- (d) **Chat ID** - This is the chat id we got from the myidbot. This is also unique to you.
- (e) **BlackBox Name** - Choose a name for your BlackBox. This will help identify exactly where or what the purpose of this BlackBox is. It will also help to distinguish from another BlackBox if more than one is used.

(f) **Alarm Message** - Here you can accurately describe the alarm notification that you will see when triggered. You are not limited to prepopulated names that do not match any alarm you may be having. This creates a more natural response to an alarm. The message becomes whatever you made it say.

(g) **Internal Vibration Sensor** - This field is to program the BlackBox to start up and run with either the internal vibration sensor enabled or disabled. Set to "1" and the internal vibration sensor is active. Set to "0" and it is off. By default for the first time setup this is set to "0" Off. If you do not set this to 1 during the first setup the internal vibration sensor will not function.

This means you can operate the BlackBox with an external sensor connected and configure it many ways. And it also means that a dedicated button was not necessary in order to select.

For example, if you want to connect an external sensor and then put the BlackBox somewhere where it may be moved or bumped but you don't want a false alarm on the internal vibration sensor. Or maybe you want to activate both at the same time. To activate the external sensor all you have to do is simply plug it in.

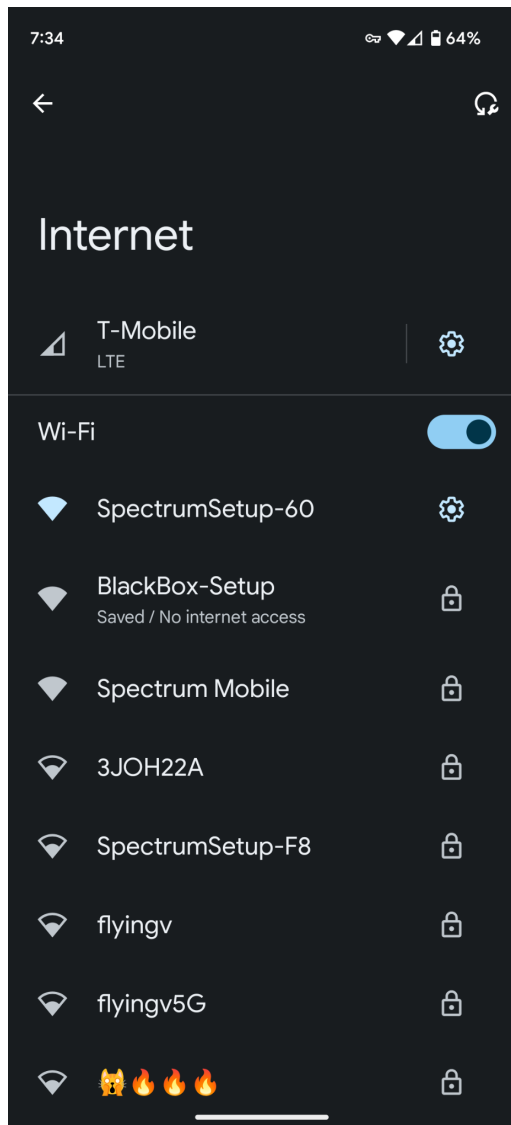
- Internal Vibration Sensor only mode
- External Sensor only mode (simply plugging in external sensor activates, unplugging deactivates)
- Both Sensors at the same time

Getting to the BlackBox-Setup Portal

Open wifi settings and search for available wifi networks. BlackBox-Setup should be listed as one of the wifi networks that you can select. Once BlackBox-Setup is selected there is a password. This is just for the setup portal and it is only active when there is no connection available.

The password is “password” without the quotes.

This example is shown for Android devices but the process is similar for all platforms.



Once BlackBox-Setup is selected the WifiManager screen is next. Choose Configure Wifi.

Now select your SSID from the list of available wifi networks.

SpectrumSetup-60	🔒 📶
flyingv	🔒 📶
🔥🔥🔥	🔒 📶
MySpectrumWiFi0f-2G	🔒 📶
Fox- Autumn	🔒 📶
SpectrumSetup-F8	🔒 📶
NETGEAR23	🔒 📶
Pretty Fly For A WiFi	🔒 📶
SmartGateway_9404	🔒 📶
[range]_E30AJT7113296L	🔒 📶
SMA1990037655	🔒 📶
SpectrumSetup-E8	🔒 📶
NETGEAR71	🔒 📶

SSID

Password

☐ Show Password

Telegram Bot Token

Chat ID

BlackBox Name

Alarm Message

Internal Vibration Sensor

Save

Refresh

No AP set

Next is the **Bot Token**. Enter your Bot Token that was received from the Botfather earlier.

Then enter the **Chat ID** received from the MyIdBot.

Now we enter the **BlackBox Name**. The name helps to distinguish one BlackBox from another if multiples are used. It also provides a more detailed notification.

Alarm Message. Here the notification is specified. This can be as specific as you wish. So for example, instead of "Room 1" you could make it "Mike's Laboratory" or whatever you want. Again this makes for a more detailed notification. It also makes the notification personal to you and stands out when received.

Internal Vibration Sensor. This determines whether the internal vibration sensor is active. The reason for this is the **external sensor port**. This port lets any two wire dry contact be made in addition to the internal vibration sensor. And although you may want both to be active there may be times where you only want one active. This gives complete control.

It must be set to 1 for the internal vibration sensor to be on. And set to 0 if off is desired. The external sensor is active whenever a sensor is plugged in.

If you wish to change this the procedure is the same as changing any other information in the setup portal. Either leave the range of the connected wifi network or turn off the wifi router, wait 30 seconds and search for the setup portal again.

Note : The external sensor port of the BlackBox is programmed for two wire normally open devices, for example a reed switch. Make sure that the switch or sensor that you connect is a **normally open model**. Basically this means that if the two wires are touched together an alarm notification will be sent. If you use a normally closed switch or sensor then the alarm notification will trigger constantly.

The advantage of using a normally open switch is that the external sensor does not need to be plugged in or bypassed. This means on demand use of the external port just by plugging in. And no need for a switch, programming or a jumper to use.

Save Changes

Some fields may have strange characters filled in when you first visit the portal. This is to obfuscate the information that was previously filled in. Always delete it from the field before entering new info in case it was incorrectly entered previously.

Once saved the connection to the portal will drop as the BlackBox will now use the new credentials entered to connect to wifi and send you a successful connection notification. This is done using the info you just saved to the BlackBox. So if after saving to the BlackBox you do not receive a Telegram notification then something was not configured correctly. If this is the case then go back to wifi settings and repeat the process after connecting to BlackBox-Setup.

Upon a successful connection to wifi and Telegram there will be a notification. This notification will include the connected ip address of the BlackBox, the ssid that the BlackBox is connected to and an example of the message that will be received if triggered.

At this point the BlackBox is set and monitored using the sensors you specified.

You can change the **default notification sound in Telegram** to give the alarm a sound tailored to exactly what you are trying to achieve. Also overriding **Do Not Disturb mode** is a good idea as well to make sure you receive notifications.

There is no limit to where you can put a BlackBox as long as it has access to wifi to report alarm notifications and can be powered.

If using outdoors keep in mind that the BlackBox itself is **not waterproof** but can be used in a non metallic case to protect from the elements.

The BlackBox is powered by 5v dc power and any 5v battery or battery pack will power the BlackBox. Average power consumption during use is 75mah. The BlackBox should run at least 12 hours on the built in rechargeable 18650 battery.

Some examples for use :

Cars

RV's

Boats

Motorcycles

Bicycles

Trucks

Doors

Windows

Storage Units

Lockers

Dog Doors

Camping

Tents

Scooters

Purses

Alcohol Cabinet

Prescription Drug Cabinet

Cabins

Hotels

Desk Drawers

Gates

Garage Door

Protect Catalytic Converters

Wheels/Tires/Rims

Troubleshooting

Here are some tips for connection problems when setting your BlackBox up.

The BlackBox-Setup web portal page is a page that the BlackBox itself is serving. When powered up if the saved connection cannot connect, the BlackBox will then go to the setup portal page.

The default password to enter the portal is “password” (without quotes). The portal is only active if there is no saved connection or if the saved connection was not able to connect. Without any password the portal would be accessible to anyone who connects to the BlackBox-Setup portal during this time. And once the connection is saved and successfully can connect, the BlackBox is no longer in the portal mode and logging in can only happen when the portal is running.

Wait, I don't know where to find this portal at all

To find the portal go into Wifi Settings on your device and search for available networks. The BlackBox-Setup Portal will show up as one of these networks.

Once you try to connect to this network it will ask you for the password.

Then if the password was correct you should be redirected to the settings web page.

If you are not redirected to the settings page, enter 192.168.4.1 in a browser and this should take you to the portal setup page. Most of the time the redirection to this page is automatic but sometimes you may be prompted to go to a page to sign in.

Re-entering the portal

What if you want to get back to the portal in order to type a different value into the fields ?. This might be because you want to call it something different from when it was named in the setup. Or maybe you want to change the notification message ?

To get back to the portal there are two ways. The first is to stop the wifi router you connected the BlackBox. Then reboot the BlackBox, and after searching for the network it was programmed for and not finding it - the BlackBox will enter the portal mode after 20 to 30 seconds .

The second method is to leave the vicinity of the wifi ssid you programmed the BlackBox to. Reboot the BlackBox.

After turning on searching for 20 or 30 seconds just like the previous method, the BlackBox will start the portal mode. Then re enter whatever value you were going to change and save.

I can't find the BlackBox-Setup portal and not sure why

If you are searching for the BlackBox-Setup portal in wifi settings and don't see it, try these steps.

Reboot the BlackBox, if it was moved to a new area you must reboot the BlackBox and wait for it to scan available networks. If it finds the network then it will connect and you should receive a connection notification in Telegram.

If it doesn't connect then the portal should appear after about 30 seconds.

It is possible that you are connected to the wifi ssid you specified but you are not receiving notifications because the credentials were not correct for Telegram. So you may be connected to the wifi network but Telegram can't tell you.

For this situation re enter the portal as specified already above and enter the credentials again, making sure they are correct.

If you are having an issue connecting, always erase the text that is present in the form field and re enter it. Never assume it is correct, there may be a character missing and this could be causing the issue.

If using usb for power, always plug usb cable in first and then turn on the BlackBox. And afterwards test the BlackBox by making a slight vibration to see if you receive an alert. If you do not receive an alert, power off the BlackBox switch and then turn back on. You should also test the BlackBox after unplugging the usb cable and using it. If after unplugging and you test but do not receive an alert, power off the switch and then power on again. Sometimes the plugging and unplugging of the cable can cause a communication issue, testing afterwards ensures it is functioning.

The built in 18650 lithium rechargeable battery will last anywhere from 12 to 20 hours depending on how many times a notification is sent. It can be recharged by plugging in a usb c cable and letting the built in battery management circuitry charge the battery. Normal operating current of the BlackBox is approximately 75ma when running and slightly higher when sending notifications.

Internal Vibration Sensor Setting

If you are not getting an alert when you feel you should be receiving one, check the connection notification message. This message includes a confirmation of the setting entered.

If a 1 was entered at setup then the notification will say "Internal Vibration Sensor Enabled". And if a 0 was entered or if there was a 0 entered previously then it will say "Internal Vibration Sensor Disabled".

If you wish to change this after already being successfully connected, then re enter the portal mode as already described.

Reminder : The external sensor is active if plugged in and not active if unplugged, there is no programming required to change this.

