# Installing An Unrecognized USB 3G Dongle

Wattmon comes with a few preinstalled USB data dongles, but depending on the availability in your region you may need to configure a new one to work. This step-by-step tutorial explains the procedure. The tutorial assumes you have access to the Wattmon device via Ethernet and you have the Wattmon device home page open in your browser. We will use the Huawei E303 HSPA USB DataCard in this example.

## Detecting the USB Device ID

Plug in the USB dongle, and go to *Settings > Control Panel > USB Devices*

You will see the message *"Unknown Device Attached"*

Note down the Device ID, which will be 8 hexadecimal characters such as: **12D1:1446**

Most 3G dongles need to be mode-switched. This is because by default they go into a different mode that hides the 3G interface. In order to find the correct mode switch message, search in Google for "modeswitch 12D1:1446" (replace the numbers with the device ID you found).

Usually the first or second link will have information on how to do this on linux. Search through the page for a part that says *MessageContent=*

For the Huawei E303, the following would appear:

```
MessageContent="55534243123456780000000000000011062000000100000000000000
000000"
```

This is the command that needs to be sent to the modem in order to activate 3G/GPRS mode.

## *Configuring The Device For Modeswitch*

Go to *Settings > File Manager*.  Navigate to the /dev/usb folder as shown below



Next, click the *Edit* button next to the 2001A80B.ini file.

You will see the File editor come up as shown below.

In the *Filename* field, replace the 8 hexadecimal digits with the ones you wrote down, in our example this is 12D11446 (Remove the : character).  Now edit the various fields to match your device settings.



```
Filename:  /dev/usb/12D11446.ini          Save    Close

1   DeviceName=Huawei E303
2   DefaultVendor=0x12D1
3   DefaultProduct=0x1446
4   MessageContent="55534243123456780000000000000011062000000100000000000000000000"
5   MessageEndpoint=1
6
```

Above is the modified file.  We replaced the *DefaultVendor* and *DefaultProduct* with the new IDs, and replaced the whole *MessageContent* line with the one we copied from the net.  We also updated the *DeviceName* field to reflect the 3G dongle we have.   Once you have made the changes, click *Save*.

Now, remove the 3G dongle and re-insert it.

## Configuring the USB Modem Device

Go to Settings > Control Panel > USB Devices.  If everything went well, you will now see a different ID in the page as shown in the image below:



Wattmon - Wattmon       Home    Graphs ▾    Settings ▾

Logged in as admin
Logout

Home  /  Control Panel  /  USB Settings

🌐 **USB Settings**

| | |
|---|---|
| Status | Device attached. |
| Device ID | 12D1:1436 |
| Device | [undefined] |
| Supports CDC | 0 |

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This indicates that the modeswitch was successful but we still need to configure the device driver for modem mode. Note down the new ID (12D1:1436). Now go back to the *File Manager* and again navigate to the /dev/usb/ folder. This time, open the file **20017D00.ini**. The contents of this file is shown below:



Now replace the *Filename* with your new ID, in this case 12D11436.

Next, replace the *DeviceName*, and *DefaultVendor* and *DefaultProduct* fields. Set the *DefaultInterface* to 0 unless you have documentation that says it should be otherwise



Also, enter any device specific init commands in the init= line. You should put the following line in:

*init="AT+CREG=1|AT+CFUN=1"* - this will enable automatic network registration which is required on some dongles. If it is not supported, it will just be ignored. Make sure you have a blank line or # character on the last line.

Now click save, remove the USB device and re-insert it. Verify that it is properly detected in the USB page.



Now, your 3G dongle has been successfully installed. The next step is to configure your access details.

## *Configuring 3G Settings*

Go to *Settings > Control Panel > 3G Settings*



Enter your APN and dial code as per your provider details.  Most providers do not require a username and password, so leave this blank.  Click update settings, remove and re-insert the 3G dongle, and everything should come up.

If you reload the *3G Settings* page, you will see the status of the 3G connection.  In this example it is Connected and has an IP of 117.230.90.32.  This IP address is automatically allocated and will change on every reboot (and periodically).

In order to reach the device through 3G, you can ping the IP now and make sure it responds.  To make the device permanently reachable, configure the *Data Export* settings in wattmon as described in the *Wattmon Installation Manual*.