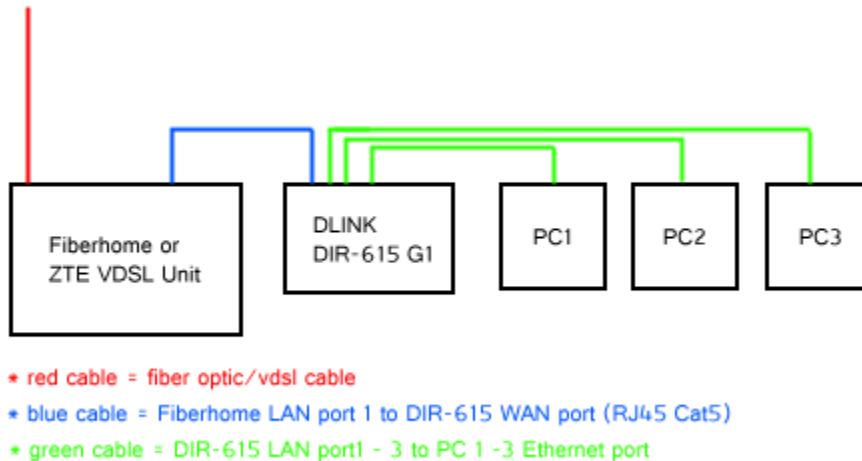


# Using Custom Routers for UniFi

## The Standard Unifi Setup

The standard Unifi hardware setup is as described below :



Note that in this diagram, the IPTV set top box actually connects to port 4 on the DIR-615. It's not mentioned because I would rather focus on the key components for Internet access alone.

Anyway, there are currently a few different methods to use a custom/your own router with UniFi and they are :

1. Reflashing the TM DIR-615 to dd-wrt. I don't recommend this because you will lose IPTV access..
2. Using a secondary wireless router/AP connected to the DIR-615 to act as a new access point. You can keep your IPTV access but I don't recommend this either because all this does is take over the wireless functionality of the DIR-615. Routing, contrack and NAT (well, Internet traffic load) is still handled by the DIR-615 so your DIR-615 will still crash under heavy connection load.
3. **Using the DIR-615 as a VLAN bridge.** This is the method I would recommend. It basically uses the DIR-615 firmware solely to perform VLAN tagging which is required for the PPPoE connection. The VLAN ID 500 is mapped to a physical port on the router, where your own custom router which does not operate with VLAN tagging will be plugged into. This causes the DIR-615 to tag/untag traffic as necessary in the background, creating a transparent VLAN-physical port bridge so that you are able to use your own hardware.

4. Using a VLAN capable switch. This is the same as the method mentioned above (number 3) however it requires you to purchase a VLAN capable switch. The DIR-615 can already act like a VLAN capable switch so I don't think this is necessary.

## **Guide : Using the TMnet Dlink DIR-615 G1 as a VLAN bridge**

Before we begin, please ensure that you have prepared the following items :

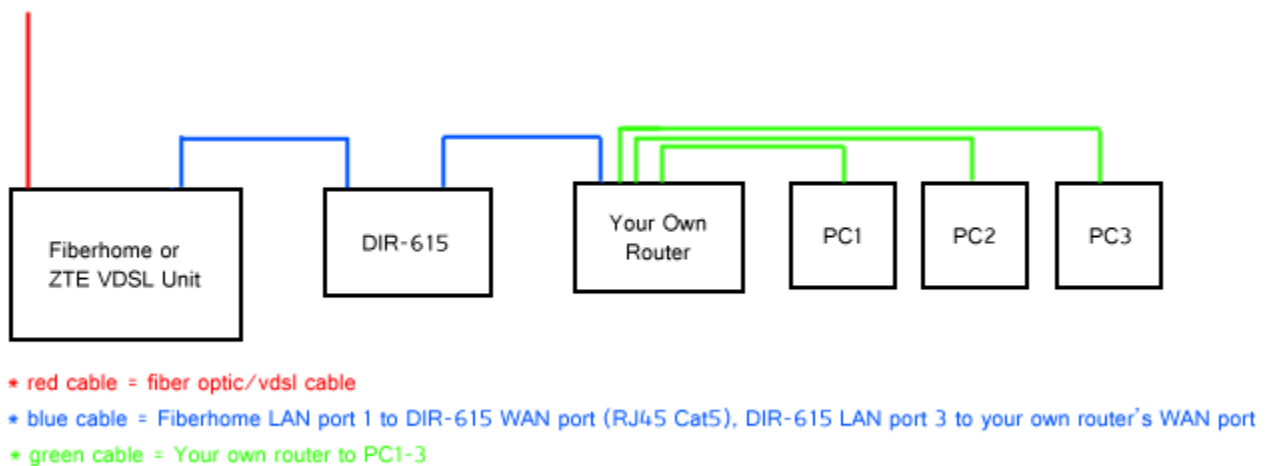
- You have a standard wireless/non-wireless Internet router at hand which you intend to use. **This means you have a router which has a RJ45 Ethernet jack as a WAN port and not a router which is combined with an ADSL/ADSL2 modem and has a RJ11 jack as a WAN port.**
- You have read the **Router Security** guide and you have set the appropriate username and password combination for both administrator accounts on the DIR-615.
- You are using a Firmware 7.05 DIR-615 G1 router. I can't guarantee this guide will work for future firmware versions at the moment. Firmware 7.05 is the current Unifi customer firmware (as of June 2010) and this guide was written for that particular model.
- You know your Unifi username/password combination. It's best to have the installation slip with you (which contains all your account details and information).
- You are not a total novice at this. You should at least know how to set up a basic ADSL connection using a router or direct dialer and set up static IP addressing for your network card. This guide is not intended for complete novices. I'm not responsible if you screw up your current configuration and can't go online. If you feel you cannot do this for some reason, get a friend who can help you.
- **You have backed up your current router configuration using the DIR-615's main administrator account via the web interface.** It is located in **Maintenance -> Save and Restore**. This is so that you can restore your router to its original state if anything unforeseen happens. Keep this \*.bin file in a safe location.
- (optional) You have downloaded the Unifi forwarder in the Downloads section. This is really just optional in the event that something really bad happens and your DIR-615 gets totally screwed up. This is however, a safe procedure and does not involve anything out of the ordinary that would damage your router or void your warranty.

**REMEMBER** : In the event that you screw something up, you can just reset your router by holding a small needle/pin/pen tip to the RESET button behind it for a few seconds (until the power light changes colour to orange from green) to reset it. Do this while the router is running and don't hold it for more than 20 seconds as you might put the router in

emergency restore mode. 10 seconds should be enough for the power light to go from green to orange. **You don't even have to do this if you've only lost Internet connectivity, just use the backup configuration file you've created earlier and restore your original settings.**

.. So lets begin ..

First of all, this is what your network is going to look like after you have set up the DIR-615 in VLAN bridging mode.



Once again, IPTV is not mentioned but it should still be accessible using the standard IPTV port on the DIR-615 (LAN port 4 -- RED). Take note that the Fiberhome/ZTE VDSL is wired into the DIR-615's WAN port. The **DIR-615's LAN port 3** is then wired into the WAN port of your own router. **This configuration will setup the VLAN-physical port bridge on LAN port 3 of your DIR-615.**

### Method 1 : The Easy Method

Method 1 involves logging into the main administrator account and uploading a configuration file which I have pre-configured for you.

1. **Ensure that your PC is connected directly to the DIR-615 using a LAN cable on LAN port 1 (IMPORTANT, DO NOT USE ANY OTHER LAN PORTS).**
2. **Ensure that the WAN cable is NOT CONNECTED to your DIR-615 during this procedure.**
3. Log into the **main administrator account** (operator). If you're still not sure what this is, read the Router Security guide.
4. Download [this file](#) . This is the premade configuration file for the DIR-615 VLAN bridge (firmware 7.05). The default username/password combination for this config file is :
 

**Username** : admin  
**Password** : rizvanrp

**Username** : operator  
**Password** : rizvanrp
5. In your web user interface for the DIR-615, navigate to **Maintenance -> Save and Restore** .
6. Upload the **firmware\_705\_dir615\_bridge\_config.bin** which you have just downloaded and the router should now notify you that it is rebooting.

7. After the DIR-615 'reboots' and goes back to the web user interface, **physically unplug its power cable and plug it back in. This is to ensure that the router has fully shutdown and restarted itself and must be done.**
8. **Wire the Fiberhome (LAN port 1) into your DIR-615's WAN port** like usual. Then wire the **LAN port 3** of your DIR-615 into **your own router's WAN port**. Your DIR-615 should now be in VLAN bridge mode and you should be able to use your own router to connect through it. You may also try using a **direct dialer on the DIR-615 LAN port 3** to test the new configuration. **Only LAN port 3 on the DIR-615 has been mapped for VLAN bridging.**
9. Remember, this configuration file also resets your router username/password to the ones listed above. For security reasons, it is recommended you change them.
10. Once this is all done, enter your Unifi username and password into the web user interface of your **own router** (not the DIR-615). The mode should be Dynamic PPPoE (if you're on Unifi home packages) and it should be setup the same way you would setup your Streamyx/Jaring/Other ADSL connection. If you did everything properly, it will connect fine :)

## **Method 2 : The Manual (Advanced) Method**

Method 2 is the manual method. It's written for people who are not using firmware 7.05 (7.01, etc.) or are having issues with using the .bin file generated in method 1 such as the router not accepting it/resetting to default settings upon upload. Some people have written to me saying their firmware 7.05 routers are not accepting the .bin savefile, so these steps will outline how to set your own configuration manually to match what is in the savefile.

1. **Ensure that your PC is connected directly to the DIR-615 using a LAN cable on LAN port 1 (IMPORTANT, DO NOT USE ANY OTHER LAN PORTS).**
2. **Ensure that the WAN cable is NOT CONNECTED to your DIR-615 during this procedure.**
3. Log into the **main administrator account** (operator). If you're still not sure what this is, read the Router Security guide.
4. Navigate to **Setup -> Internet Setup**.
5. Select **Manual Internet Connection Setup**.
6. Edit the settings to match this image :

**INTERNET CONNECTION TYPE**

Choose the mode to be used by the router to connect to the Internet.

WAN connection : WAN connection 1

WAN Connection Enable :

WAN Connection Mode : router

Vlan Id : 700

My Internet Connection is : Dynamic IP (DHCP)

---

**DYNAMIC IP (DHCP) INTERNET CONNECTION TYPE**

Use this Internet connection type if your Internet Service Provider (ISP) didn't provide you with IP Address information and/or a username and password.

Host Name : DIR-615

MAC Address :  -  -  -  -  -  (optional)  
Clone MAC Address

Primary DNS Address :  (optional)

Secondary DNS Address :  (optional)

MTU : 1500

Save Settings Do Not Save Settings

7. Select **Save Settings** and **Reboot** the router.
8. Once the reboot completes, re-login and navigate back to the **Manual Internet Connection Setup** page.
9. **Ensure the settings you have just set are still there.**
10. Select the '**WAN Connection**' drop-down menu and select '**WAN connection 3**'.
11. Edit the settings to match this image :

**INTERNET CONNECTION TYPE**

Choose the mode to be used by the router to connect to the Internet.

WAN connection :

WAN Connection Enable :

WAN Connection Mode :

Vlan Id :

My Internet Connection is :

---

**STATIC IP ADDRESS INTERNET CONNECTION TYPE**

Enter the static IP address information provided by your Internet Service Provider (ISP).

IP Address :  (assigned by your ISP)

Subnet Mask :

ISP Gateway Address :

MAC Address :  -  -  -  -  -  (optional)

Primary DNS Address :

Secondary DNS Address :  (optional)

MTU :

12. Select **Save Settings** and **Reboot** the router.
13. Once the reboot completes, re-login and navigate back to the **Manual Internet Connection Setup** page.
14. **Ensure the settings you have just set are still there.**
15. Navigate to **Advanced -> Port Mapping.**
16. Set **LAN Port 3** to 'WAN connection 3' :

### PORT MAPPING

Enable Port Mapping

| Interface  | WAN connection  |
|------------|---|
| LAN Port 1 | WAN connection 1 <span style="float: right;">↕</span> |
| LAN Port 2 | WAN connection 1 <span style="float: right;">↕</span> |
| LAN Port 3 | WAN connection 3 <span style="float: right;">↕</span> |
| LAN Port 4 | WAN connection 2 <span style="float: right;">↕</span> |

Save Settings
Do Not Save Settings

17. **Save the settings, reboot and recheck the settings.**
  
18. If all the settings are still present, your router is now fully configured in VLAN bridge mode. **Physically unplug the DIR-615's power cable and plug it back in. This is to ensure that the router has fully shutdown and restarted itself and must be done.**
  
19. **Wire the Fiberhome (LAN port 1) into your DIR-615's WAN port** like usual. Then wire the **LAN port 3** of your DIR-615 into **your own router's WAN port**. Your DIR-615 should now be in VLAN bridge mode and you should be able to use your own router to connect through it. You may also try using a **direct dialer on the DIR-615 LAN port 3** to test the new configuration. **Only LAN port 3 on the DIR-615 has been mapped for VLAN bridging.**
  
20. Once this is all done, enter your Unifi username and password into the web user interface of your own router (not the DIR-615). The mode should be Dynamic PPPoE (if you're on Unifi home packages) and it should be setup the same way you would setup your Streamyx/Jaring/Other ADSL connection. If you did everything properly, it will connect fine :)
  
21. It's also best to disable the wifi capabilities of the DIR-615 as they wont be needed anymore (**Setup -> Wireless Setup -> Multiple Wireless Network Name Setup**).



| <b>DIR-615</b> //  | <b>SETUP</b>  | <b>ADVANCED</b> | <b>MAINTENANCE</b> | <b>STATUS</b> |                       |  |                          |        |                          |  |                          |  |                          |  |
|--|---|-----------------|--------------------|---------------|-----------------------|--|--------------------------|--------|--------------------------|--|--------------------------|--|--------------------------|--|
| Internet Setup   | <b>WIRELESS NETWORK NAME SETUP</b>  |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| Wireless Setup   | Adding your Wireless Network Name is the first step in securing your wireless network. We recommend that you change it to a familiar name that does not contain any personal information.   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| LAN Setup  | <input type="button" value="Save Settings"/> <input type="button" value="Do Not Save Settings"/>  |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| Time and Date  | <b>UNTICK !</b>   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| Parental Control   | <b>WIRELESS NETWORK NAME</b>  |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| Logout   | <table border="1"><thead><tr><th colspan="2">Wireless Network Name</th></tr></thead><tbody><tr><td><input type="checkbox"/></td><td>TMHSBB</td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr><tr><td><input type="checkbox"/></td><td></td></tr></tbody></table> |                 |                    |               | Wireless Network Name |  | <input type="checkbox"/> | TMHSBB | <input type="checkbox"/> |  | <input type="checkbox"/> |  | <input type="checkbox"/> |  |
| Wireless Network Name  |   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| <input type="checkbox"/>   | TMHSBB  |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| <input type="checkbox"/>   |   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| <input type="checkbox"/>   |   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
| <input type="checkbox"/>   |   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
|  Internet Offline | <input type="button" value="Reboot"/>   |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |
|  | <input type="button" value="Save Settings"/> <input type="button" value="Do Not Save Settings"/>  |                 |                    |               |                       |  |                          |        |                          |  |                          |  |                          |  |