# Introduction to Home WiFi Setup

Residential Tier 1 Agents

Reference Guide

**Tier 1: Home WiFi Setup Reference Guide Revisions**

**Note:** Most recent revision at the top

| Revision Date | Effective Date | Author | Approval | What Changed |
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| 1/06/2015 | 1/06/2015 | A. Garcia | | Document Created |

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# Goal

To help limit the amount of calls you will have to transfer to an advanced technical group for basic support of a customer's wireless set up. Within this document we will take you through how to provide basic wireless troubleshooting and SIK support for your customers. This will help you reduce your transfer rate and help provide a better customer experience.

# Objectives

Upon completion of this module, you will be able to:

- Explain how wireless works in a customer's home
- Use the BOBCAT method to perform basic wireless troubleshooting
- Demonstrate how to install an advanced wireless gateway
- Identify how to find the wireless default name and password
- Reset a gateway back to its default settings

# Home WiFi

## What is Home WiFi?

Home wifi allows multiple wireless devices to connect to the internet at the same time. This is accomplished by connecting all of the customer's devices to a designated wireless router within their home. At Time Warner Cable, we refer to wireless routers as wireless modems, advanced wireless gateways, AWGs or sometimes just gateways.


## How does Home WiFi work?

Our gateways (modem/router combination) take the 1 public IP address assigned to it and uses it's router functionality to automatically assign private IP addresses to all the devices that the customer wishes to connect using the gateway (wired or wireless). Think of this as a road, your standard one lane road would equal 1 device connecting with just the 1 public IP address (via a modem), your subnet networking (through a gateway or router) would then work like a freeway with multiple lanes; multiple devices now being able to travel back and forth using the same "road".

## How many devices can I connect to Home WiFi?

In theory, you could connect up to 255 devices to a wireless network, it is not recommended and hardly ever is the case. The point is that we should not run into problems which would keep a customer from going online solely because they have too many devices connected. Usually, if their connection is impacted because of too many devices, it is because they do not subscribe to the bandwidth (speed) needed to adequately support the devices they want connected.

## What can impact a Home WiFi connection?

A number of things can affect a wireless connection. Some of the more common things agents come across are microwaves, metal (entertainment centers, shelves, desks, etc.), other electronics, and even other wireless networks. Distance can also play a factor into wireless connectivity issues. When combined, distance and obstructions account for many of the wireless issue calls we take.

For a key article that offers more information on the subject, navigate to the following: http://key.twcable.com/Pages/WirelessHomeNetworking.aspx

# Connecting an EZ Connect AWG:

**Where can I find the steps?**

There are How To videos you can access for all of our EZ Connect kits. These videos are available to you on our twc.com website and through youtube.com. Click on the links below to visit the relevant how to videos available to you and our customers.

- TWC.com how to videos
- YouTube: How-to video: Easy Connect Kit – Internet
- YouTube: How-to video: Set up a Wireless Router
    - One note to make, if the customer has a TWC gateway and a personal router, the networking functionality of the gateway needs to be disabled. This step would have to be done by the customer, if they know how, or an Advanced Tech support group.

# Basic Troubleshooting

**Where do I start?**

Just like all troubleshooting processes we want to use the **BOBCAT** method.

**Billing:**

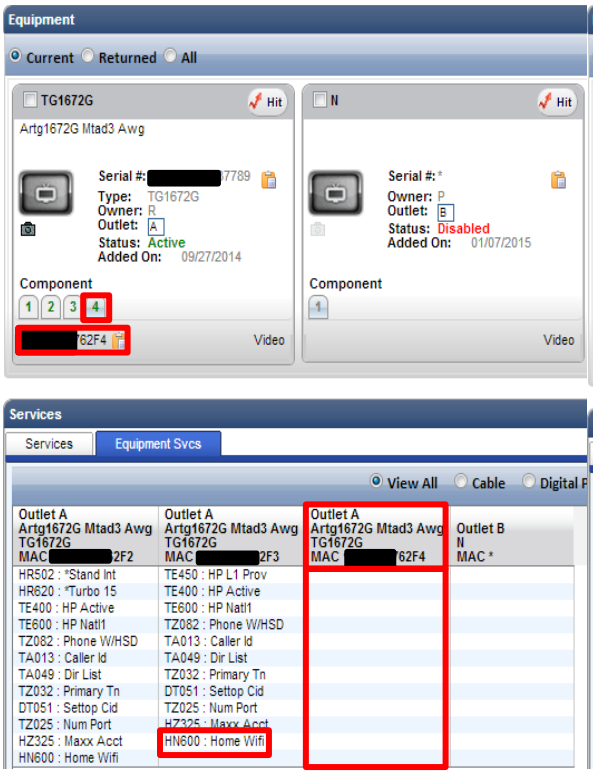
Starting with billing, check to make sure the appropriate internet and wireless codes are on the account. When it comes to our AWGs (Advanced Wireless Gateways) the wireless codes we are using on the account do matter.

- If the incorrect codes are in place, it could cause the wireless functionality of the AWG to disable itself, limiting the customer to a direct connection.

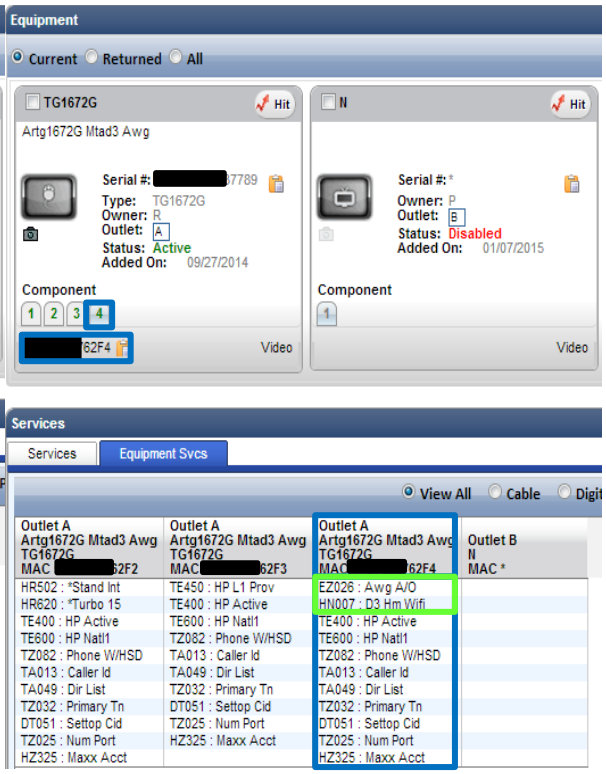
For example, if a customer has a Docsis 3.0 gateway, we should be using the **AWG WiFi**, **D3 Hm WiFi**, and **AWG A/O** codes . If you use the **Home WiFi** code (meant for Docsis 2 gateways), the AWG portion of the modem would become disabled because it is not coded properly (examples on the following pages).

# Introduction to Home WiFi Setup

**Incorrect Coding**

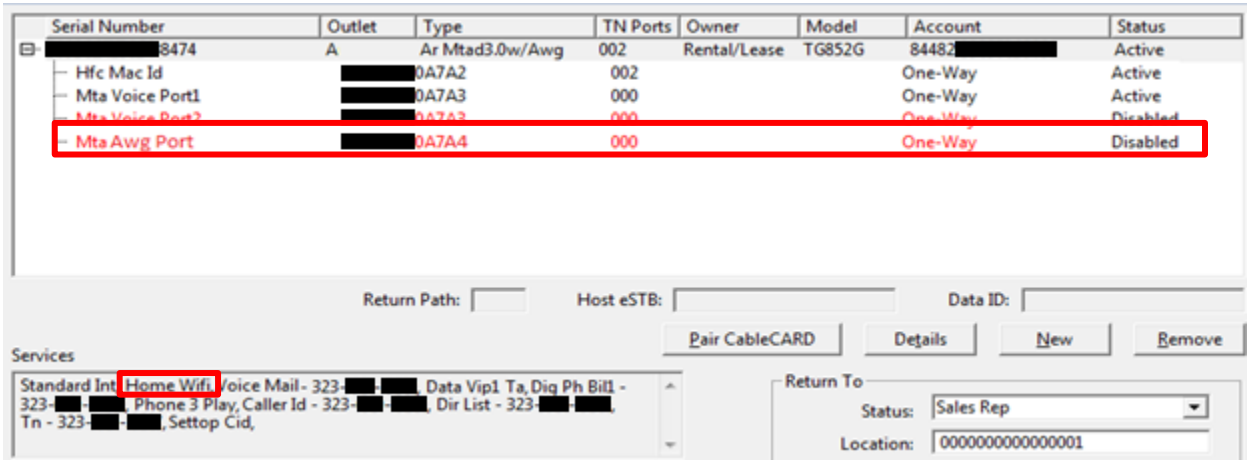



**Correct Coding**



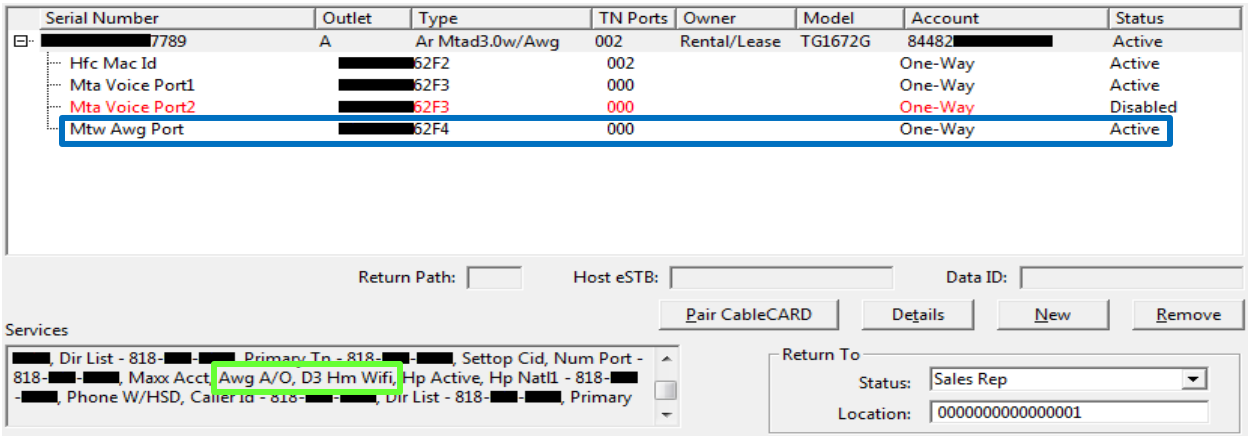

Below are examples of what CSG would show in the equipment screen to match what you would see in AAD.

**Incorrect Coding**



Once the coding issue is resolved, by adding the appropriate wireless coding, the AWG port will become enabled (example below).

**Correct Coding**




**WiFi codes break down:**

## Home WiFi Codes

| Markets | LA | SD/DC | MW |
|---|---|---|---|
| **D2 Gateway** | **ELP – Turbo** (pre Maxx)<br>**ELP – Basic** (post Maxx)<br>Home Wifi<br>Mdm Lease | **ELP – Turbo** (pre Maxx)<br>**ELP – Basic** (post Maxx)<br>Home Wifi<br>Mdm Lease | **ELP – Turbo**<br>Home Wifi<br>Mdm Lease |
| **1. D3 Gateway in a Pre Maxx Market** | **ELP – Turbo**<br>D3 Hm Wifi<br>AWG A/O<br>Mdm Lease | **ELP – Turbo**<br>D3 Hm Wifi<br>AWG A/O<br>Mdm Lease | **ELP – Turbo**<br>D3 Hm Wifi<br>AWG A/O<br>Mdm Lease |
| **2. D3 Gateway in a Pre Maxx Market** | **Extreme – Ultimate**<br>AWG Wifi<br>AWG A/O<br>Mdm Lease | **Extreme – Ultimate**<br>AWG Wifi<br>AWG A/O<br>Mdm Lease | **Extreme – Ultimate**<br>AWG Wifi<br>AWG A/O<br>Mdm Lease |
| **1. D3 Gateway in a Post Maxx Market** | **ELP – Standard**<br>D3 Hm Wifi<br>AWG A/O<br>Mdm Lease | **ELP – Standard**<br>D3 Hm Wifi<br>AWG A/O<br>Mdm Lease | **Maxx is currently not available in this Market** |
| **2. D3 Gateway in a Post Maxx Market** | **Turbo – Ultimate**<br>AWG Wifi<br>AWG A/O<br>Mdm Lease | **Turbo – Ultimate**<br>AWG Wifi<br>AWG A/O<br>Mdm Lease | **Maxx is currently not available in this Market** |

**Outages:**

Although not very common, you still want to go through your normal means of checking for outages effecting wireless connectivity. Occasionally, there are firmware changes to our gateways; sometimes these firmware changes can affect the functionality of the gateway.

**Balance:**

For the same reasons we want to make sure that the wireless codes are correct, we also want to make sure that the equipment is in the proper order.

- If the equipment is not in the correct order, another piece of equipment may be taking over the wireless code the gateway should be assigned.
    - If this happens, the AWG port will become disabled, and potentially disable the wireless functionality of the gateway.

**Note:** Sometimes you will find codes attached to our equipment that cause problems with the way the Internet codes get assigned to equipment. If you see these codes, remove them from the account, double check all coding, and revisit the equipment balance.

These codes are:

- W/L Rout A/O
- HSO A/O
- Wireless A/O

**Connections:**

Though the customer may be calling in about wireless issues specifically, having the customer double check the connections is still a very valid step.

- Take into consideration the things that can impact a wireless connection (distance, obstructions, etc.) and check the location of the gateway and the device that is trying to connect.
- The customer may be thinking his wireless is out, because he only has a tablet or hand held device, but it could also be that the gateway itself is unplugged.
- Have the customer try direct connecting into the gateway with an Ethernet cable to verify if the problem is isolated to just the WiFi.
- Have the customer check what the lights on the modem are doing and compare to the Equipment Library. If the wireless light is off and will not come on, you could try to reset the gateway to defaults (discussed further in this document). If the problem continues you will want to follow your normal escalation procedures located within GuideIT.
- Ensure the customer has the wireless functionality turned “On” in the device.

**Advanced Diagnostics:**

Using your diagnostic tools, you will want to go through your normal checks for signals and uptime.

Use RIO, Docsis, and the (built in) AAD diagnostics to check the following information:

**NOTE:** RIO is not real time; it will not display any equipment that was recently added to an account. Docsis will show the equipment if RIO does not.

- **Signals** can potentially impact a customer's internet connection (wired or wireless), causing their connection to be slow or drop.
    - If you find a potential problem with signal levels, try revisiting connections, making sure that the coaxial cable is connected finger tight and without damage.
- **Invalid Bin Files** can cause problems; if you see an invalid Bin File like "autoprov" you will want to revisit Billing and Balance.
    - Invalid bin files can be caused by incorrect coding/balance, quarantines, incomplete registration, and compliance issues (if modem is no longer compatible).
    - Once you correct the cause (if possible) of the invalid bin file power cycle the gateway to try and retrieve a valid bin.
    - Example of a valid bin file: isrrIP1BW99_3.bin
- **Uptime** can also impact the gateway, causing it to malfunction or drop the customer's connection.
    - If uptime is believed to be the issue, simply reset the gateway using your diagnostic tools or have the customer power cycle it.

**Trouble call:**

Although we rarely have to set up TCs or EZC Rescues for wireless only issues, you will want to follow your normal escalation procedures located in Guide IT, depending on the issue. This way, you can escalate after appropriate troubleshooting has been completed; whether it is an equipment swap, trouble call, or escalation to Tier 2/3.

# Default Wireless Info

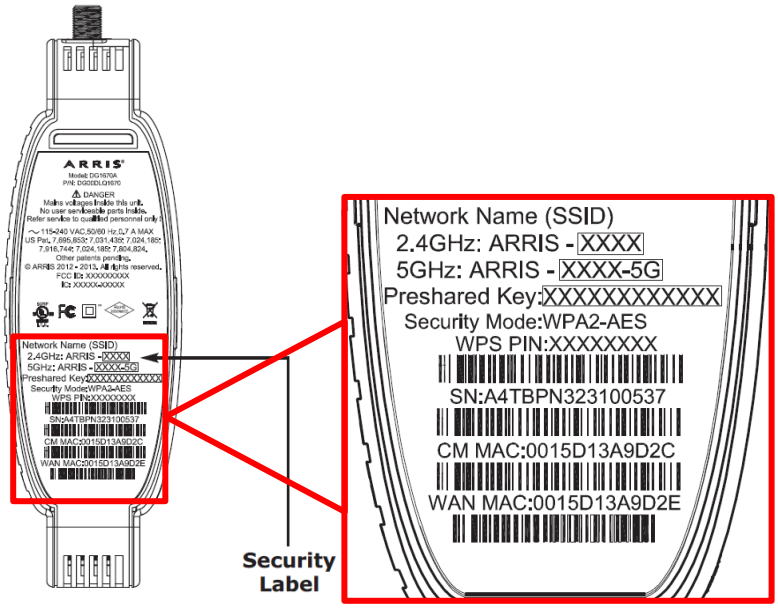
**Identifying locations of default info?**

Depending on the make and model, there could be a sticker with the default wireless network name (SSID) and password (Pre-shared Key) located somewhere on our gateways. Typically, they are located in the back of the gateway (where the connections would be, or underneath the modem where the stands are). Below are a few examples of where you could locate these stickers.

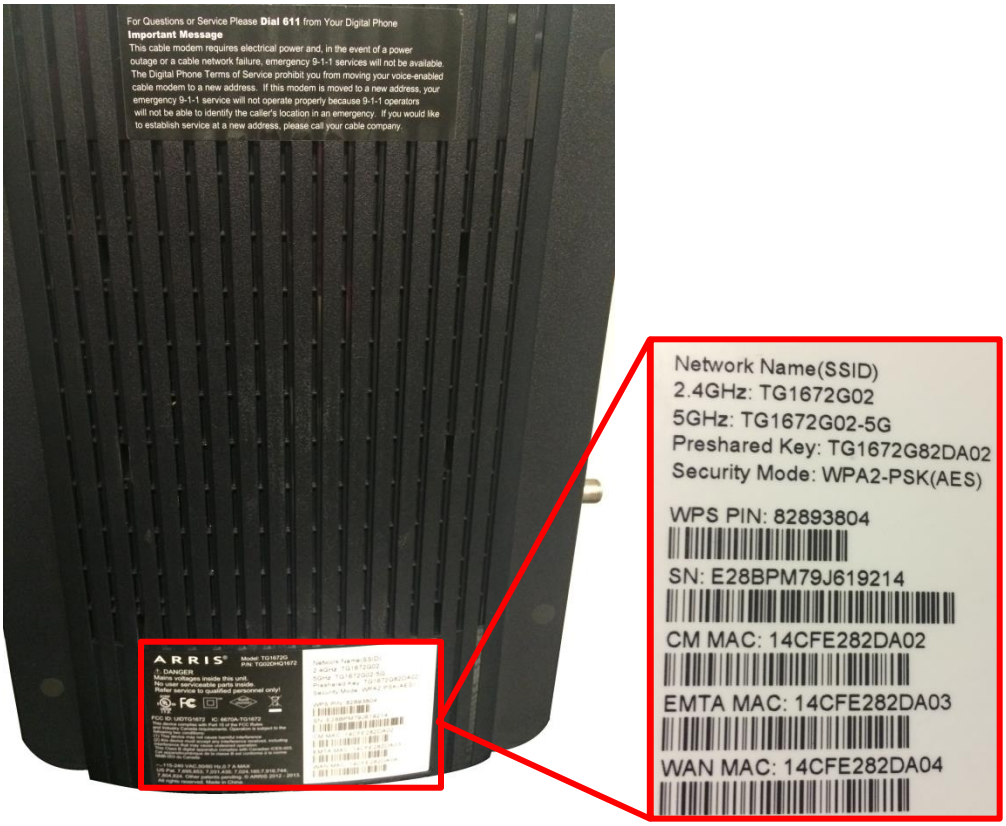
### ARRIS TG862G02


### Motorola SBG6580

## Arris DG1670A




## Arris TG1672G



**What if the sticker is not there?**

Keep in mind, not all of our gateways will have these stickers, or in some cases have been damaged or removed. In these situations, we will have to figure out what the default information should be for a specific piece of equipment. We have a method of figuring out what the default information should be for our newer and older gateways using the Model and MAC address assigned to the gateway. Since a MAC address is unique to each modem/gateway, it will be a secure password if left as the default. You can find the MAC address on the equipment screens in AAD or CSG.

## Default Wireless Log Ins

**Arris Gateways:**

SSID - Model + last 2 of RF MAC (all caps) (Example – TG852GB2)
KEY - Model + last 6 of RF MAC (all caps) (Example – TG852G5451B2)

**Netgear Gateways:**

SSID - Model + last 2 of RF MAC (all caps) (Example – CGD24GF4)
KEY - Model + last 6 of RF MAC (all caps) (Example – CGD24G65A5F4)

**Motorola Gateways:**

SSID - Model + last 2 of RF MAC (all caps) (Example – SBG658058)
KEY - Model + last 6 of RF MAC (all caps) (Example – SBG658034B958)

**Technicolor Gateways:**

SSID - Model + last 2 of RF MAC (all caps) (Example – TC8717TB6)
KEY - Model + last 6 of RF MAC (all caps) (Example – TC8717T6D0CB6)

**Ubee Gateways:**

SSID - Model + last 2 of RF MAC (all caps) (Example – DDW3611E6)
KEY - Model + last 6 of RF MAC (all caps) (Example – DDW3611C911E6)

**Is there a way I can reset a gateway to its defaults?**

As a Tier 1 Agent, you will not have access to the tools to complete this yourself. However, you can walk the customer through a simple process to reset a gateway to its defaults. On each of our gateways there will be a small reset button (highlighted in the in screenshots below).

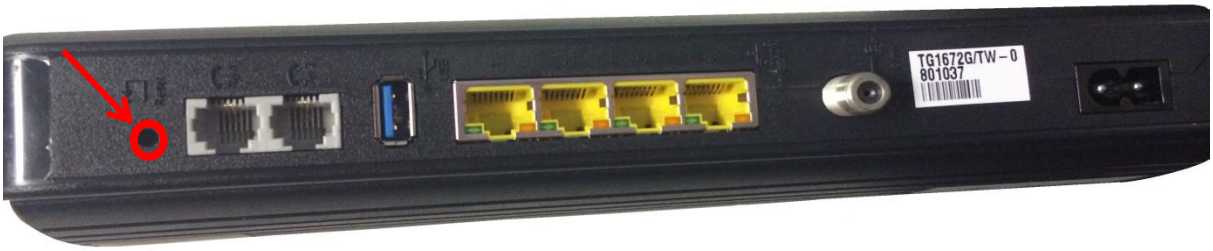
1. Have the customer get something small like a paper clip or safety pin.
2. Have the customer **press and hold** the button down for at least **20 seconds** (if done for less time, the gateway may not reset correctly).
3. Have the customer watch the lights as they hold the button in, when they go out, it is finished.

**NOTE:** Keep in mind, if this is an eMTA AWG (and the customer is using their Digital Phone), you are resetting the modem and may lose the call. By doing this, you are resetting ALL settings within the gateway back to its factory defaults.

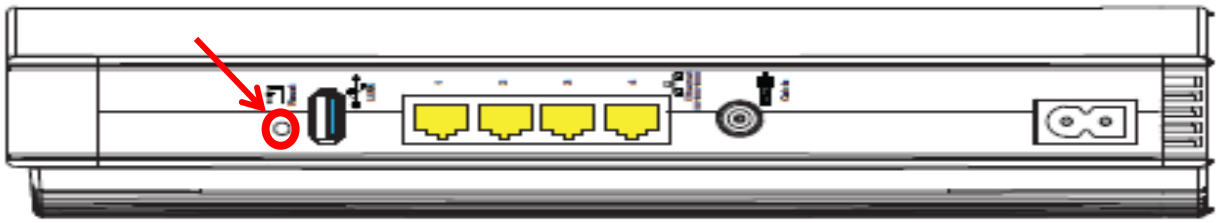
**ARRIS TG862G02**


**MOTOROLA SBG6580**

**ARRIS TG1672G**




**ARRIS DG1670A**



**Ubee DDW3611**

**Ubee DVW3201B**