Connecting the IC-705 to the RS-BA1 Software Using WiFi

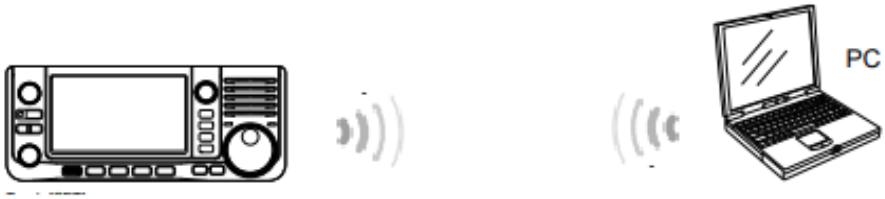
Introduction

The following paragraphs describe how to connect your IC-705 via WiFi to the RS_BA1 software using the IC-705's built-in RS-BA1 server. There are two WiFi connection methods: **Access Point** (direct access), and **Station** (the radio is part of an IP network).

Prerequisites

- PC with functional WiFi, or a connection to a network with WiFi
- Basic understanding of:
    - IP Networking
    - RS-BA1 software
    - Windows, and Windows network configuration

Access Point Connection Method



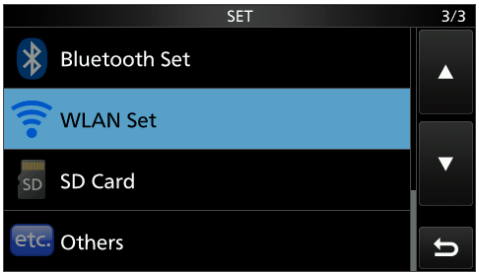
Access Point mode on the 705 allows you to connect directly to your radio using its internal RS-BA1 server using WiFi. *The connection is a dedicated connection, which both devices (PC and radio) communicate only with each other, allowing no other WiFi connections.* The radio uses an IP address of 192.168.59.1 so your PC's WiFi adapter has to be configured to use an IP address in that range. The IP address for Access Point mode is hard coded, and cannot be changed.

Prerequisites

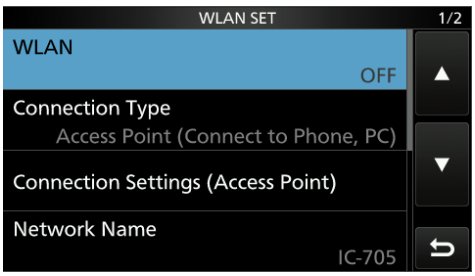
- PC with working WiFi, with the WiFi Nic configured for an IP address in the 192.168.59.xxx range with a subnet of 255.255.255.0
- A previously installed, and working RS-BA1 installation.

Configuring the 705

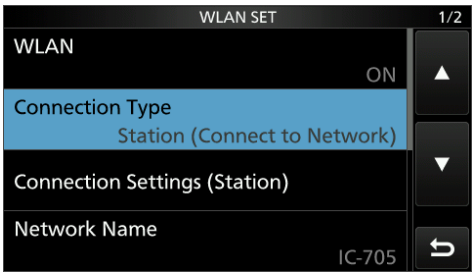
1. Go to **Set** > **WLAN Set**, and select it.



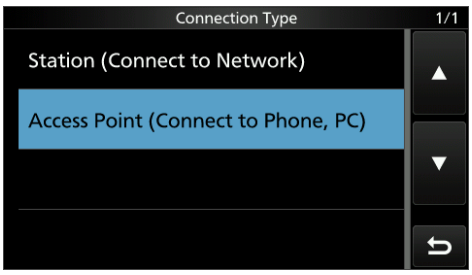
2. In **WLAN SET** > **WLAN**, switch to **OFF**.

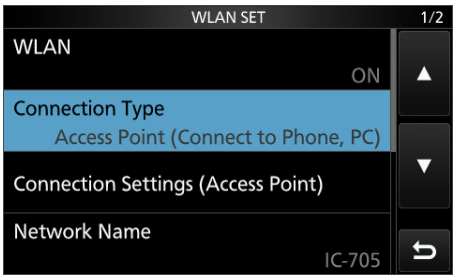


3. Select **Connection Type**.

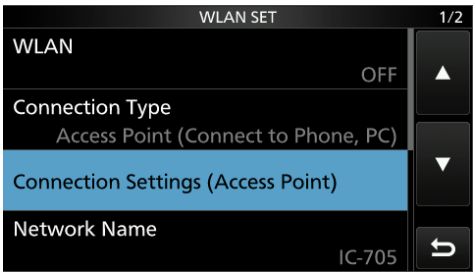


4. In the **Connection Type** menu, select **Access Point**, then return to the **WLAN SET** menu.

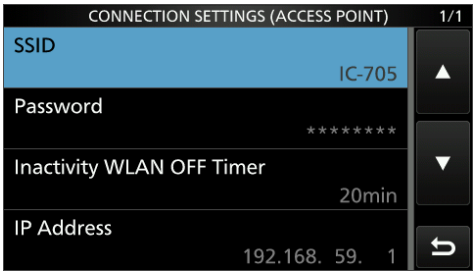




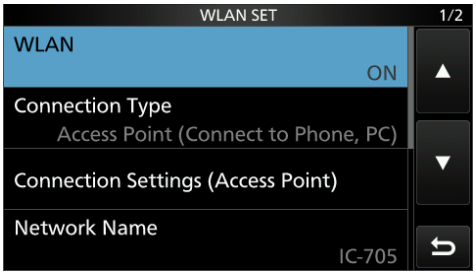
5. Once back at the **WLAN SET** menu, select **Connection Settings (Access Point).**

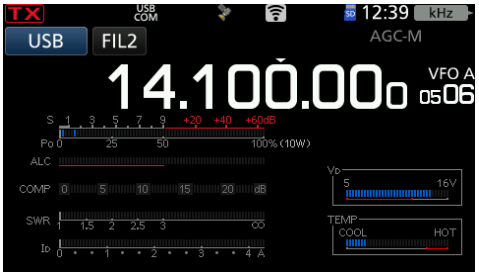


6. In the **CONNECTION SETTINGS** menu you can set your SSID for the 705, a password to the Access Point, and IP Address. Once these are set, return to the **WLAN SET** menu.



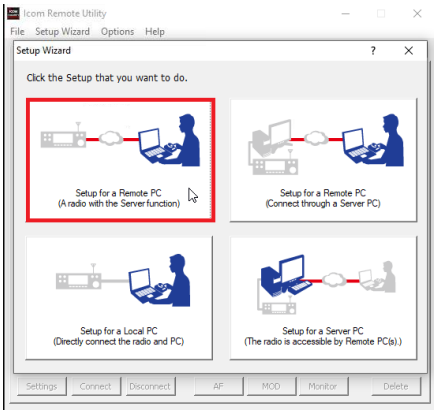
7. In the **WLAN SET** menu, select **WLAN**, and switch to **ON**. Once it is set to **ON**, you can return to the radio's Main Screen. Once at the Main Screen note that the WiFi icon is now inversed (white background/dark image) showing that the radio is in Access Point mode.





Configuring the RS-BA1 software

Open the Remote utility, select the outlined Wizard setup, and follow its instructions to complete the configuration.



Station Connection Method

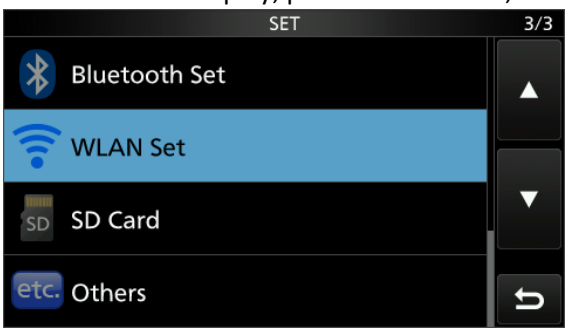
Station mode on the IC-705 allows the 705 to connect to your WiFi network as a network device. The radio can be assigned a dynamic IP address using DHCP (not recommended), or you can assign a static IP address (recommended). This type of connection will allow other PC's with the RS-BA1 software to connect via LAN, WLAN, or over the Internet while also allowing your PC to have an Internet connection.

Prerequisites

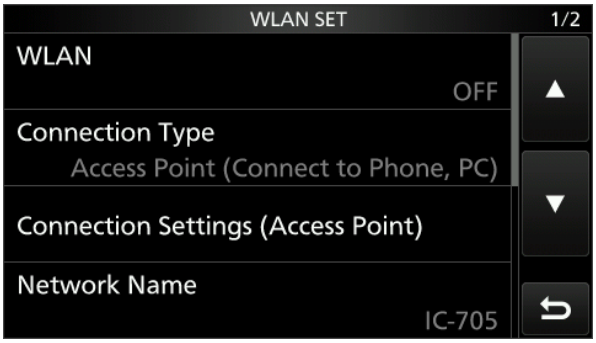
- The SSID and password for your WiFi access point/router
- PC with a network connection, and connected to your WiFi network
- A previously installed, and working RS-BA1 installation.
- An unused IP address for the radios Static IP address.
- For remote access from outside your LAN, Port Forwarding of Ports 50001, 50002, and 50003 is enabled, and directed to the IP address of the radio.

Configuring the 705

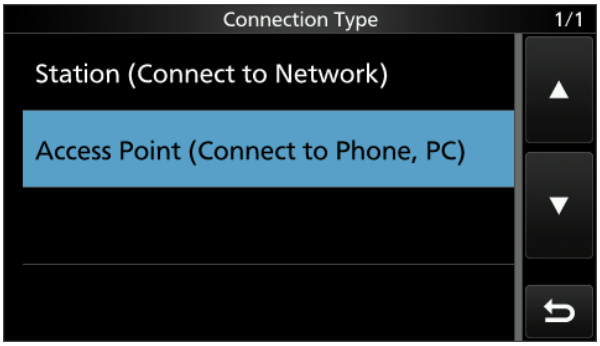
1. From the Main Display, press **MENU > SET**, then scroll and select **WLAN Set**.

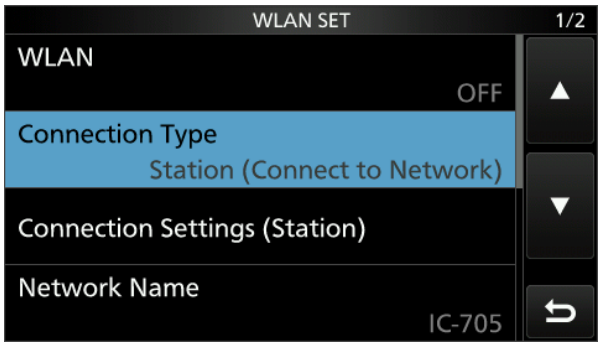


2. Ensure that **WLAN** is **OFF**, then select **Connection Type**.



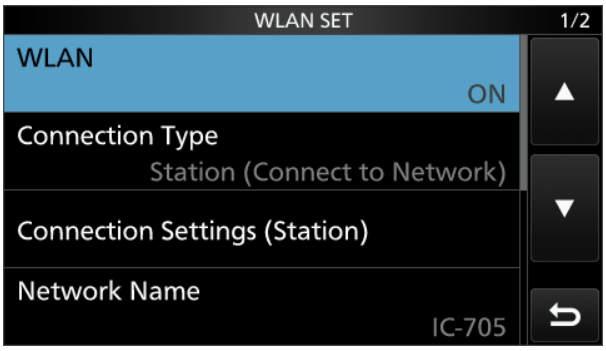
3. In **the Connection Type** menu, select **Station (Connect to Network)**, and return to the **WLAN Set** menu.



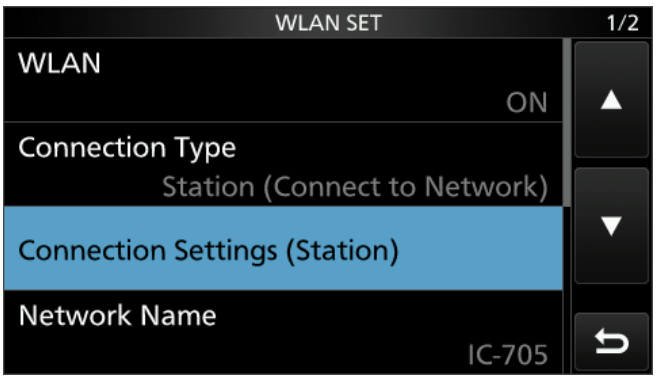


WiFi Setup

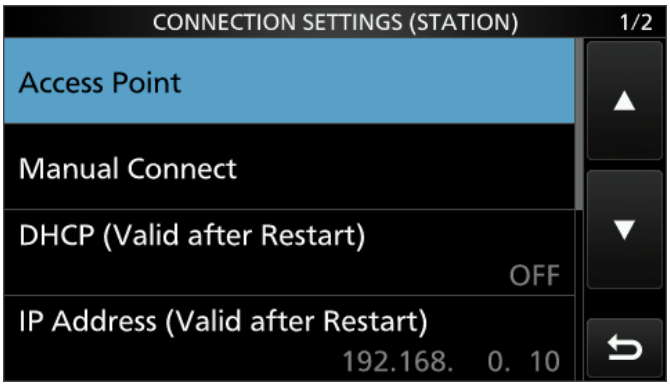
1. Press WLAN, and select **ON**.



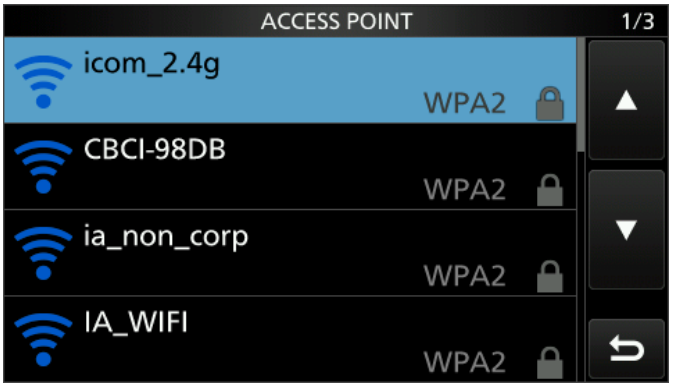
2. Select **Connection Settings (Station).**



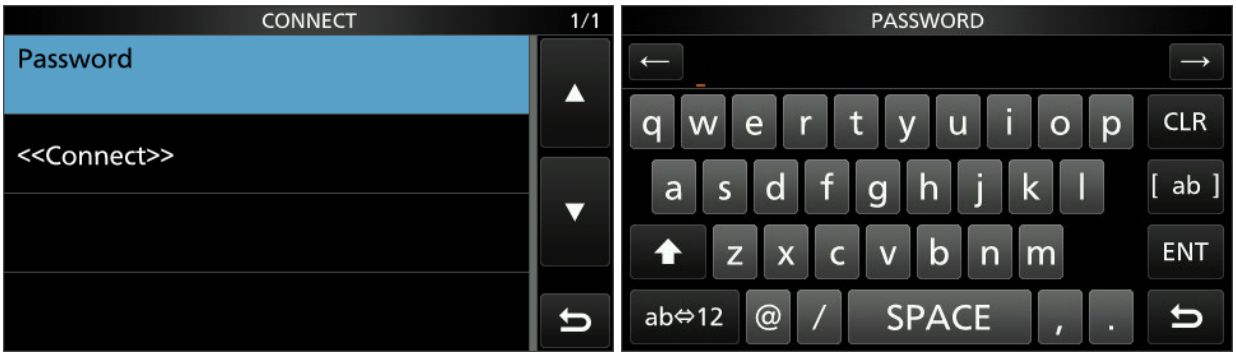
3. Select **Access Point**.



4. After the radio searches for nearby access points it will display them in a list. Press the Access Point that you want to use (when selected you will be moved to the **Connect** screen).



5. Select **Password** and enter your password using the on-screen keypad. Press **ENT** to save and exit.



6. Select **Connect**, and the radio will initiate a WiFi connection. Once a connection is made **Connected**, will be displayed below the AP name.

Here you need to make a choice between a dynamic IP (assigned by a DHCP server), or a static (assigned, and configured by you in the radio). Icom recommends using a static IP address.

IP Protocol Comparisons

DHCP Dynamic IP
Pro – minimal or no configuration required

Con – Have to check the radio for the IP address, the IP address may change without notice causing connectivity issues, and port forwarding to fail

Static
Pro – Configuration never changes unless changed by the operator, you will always know the radios IP address, safer to port forward

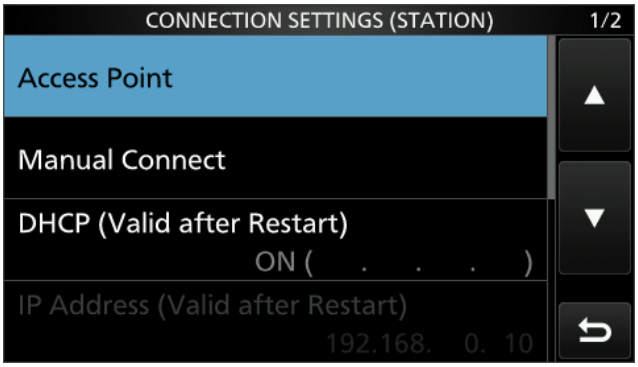
Con – Have to manually configure the radios networking

To continue with the static IP configuration, go to *Static IP Configuration*.

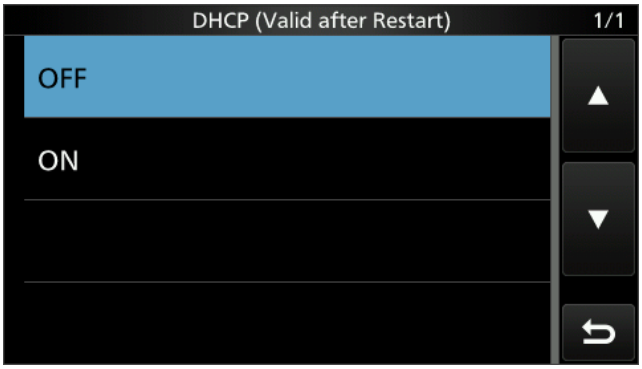
For DHCP go to the **WLAN SET** screen, and page down to page 2/2, then scroll down to *DHCP Configuration*

Static IP Configuration

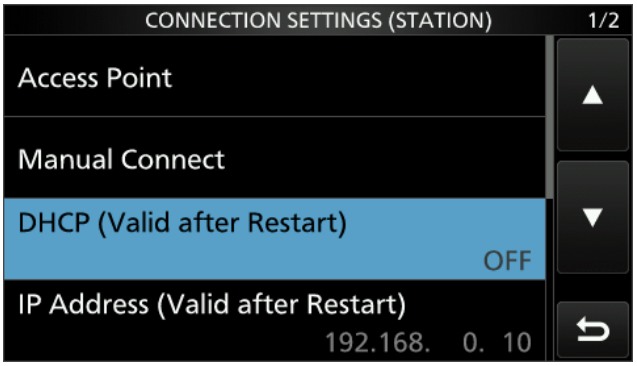
1. Go to the **WLAN** menu in **Set Mode**, and select **Connection Settings (station)**.



2. Press **DHCP** and select **OFF**.

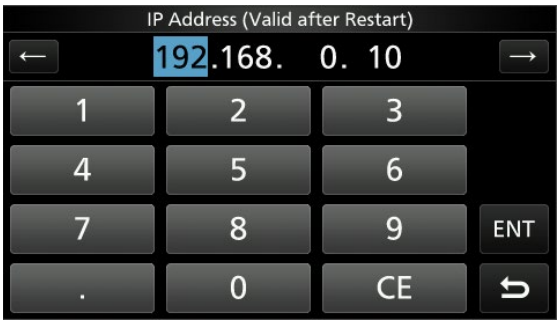


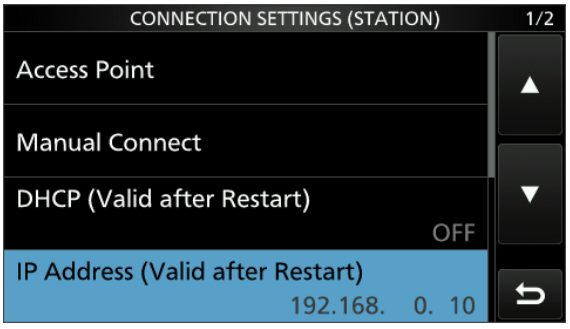
3. Once completed, return to the **Connection Settings (Station)** screen and power cycle your radio. Once the radio has booted up, return to the **WLAN/Connection Settings (Station)** screen.



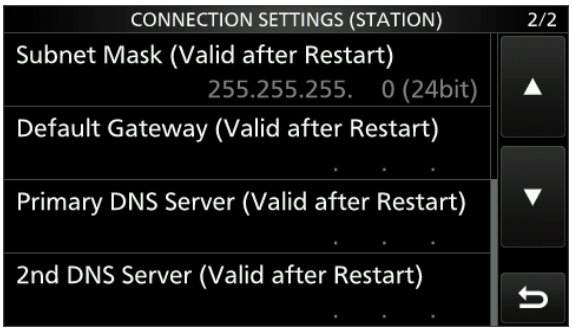
4. Press **IP Address**.

5. In the screen below, enter your IP address using the keypad, and press ENT when done.





6. Press the down arrow to scroll to page **2/2**.



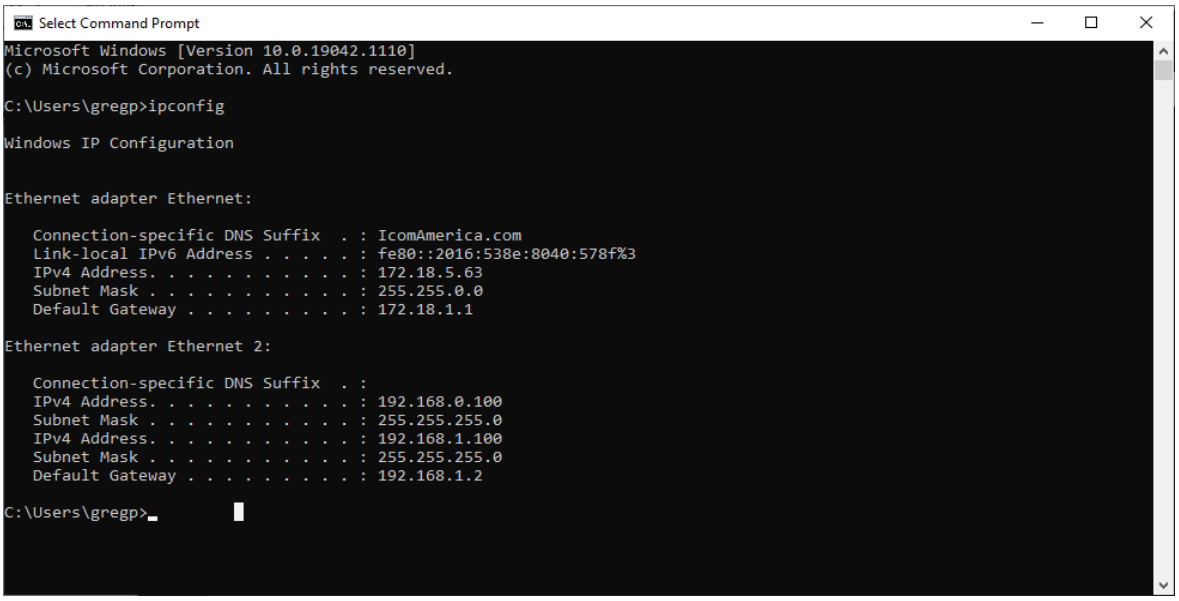
7. Check the Subnet Mask, and if it already matches your network, there is no need to change it. If you have to change it the process is the same as changing the IP address for a static IP address.

8. Add your Default Gateway, and Primary/Secondary DNS servers.

9. Once the settings have been changed reboot the radio, and return to the **WLAN SET** screen, and scroll down to page **2/2**

Finding your Subnet Mask, Default Gateway, and DNS Servers.

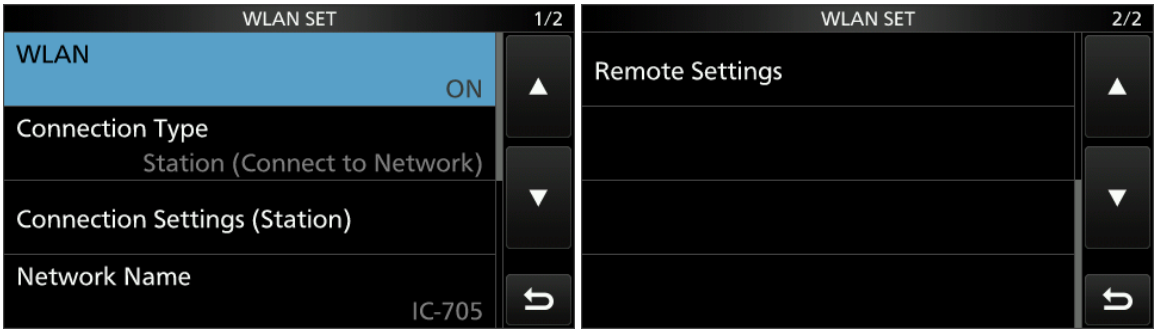
This information can be found on one a network connected computer by opening a command prompt, and typing **ipconfig** , then pressing Enter.



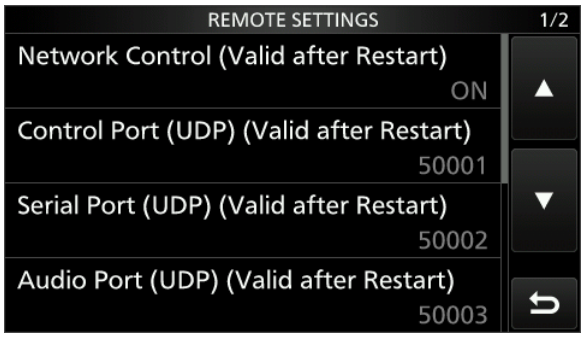
For simplicity and security, this procedure uses the root DNS servers 1.1.1.1 (Cloudflare), and 8.8.8.8 (Goggle). You can use any DNS Server of your choosing as long as you are aware of the risks.

DHCP Configuration

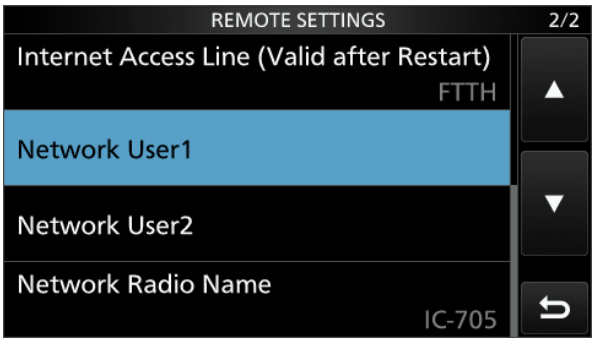
1. Go to the **WLAN SET** screen page **2/2**, and select **Remote Settings**.



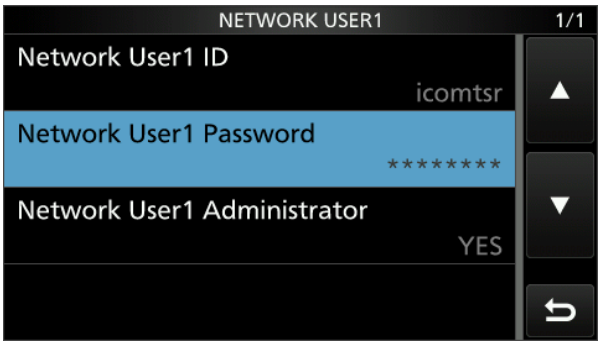
2. Switch Network Control to **ON**, verify that your ports are set to defaults (50001, 50002, 50003), and reboot the radio.



3. Once the radio has rebooted, return to the **REMOTE SETTINGS** screen, press the down arrow to navigate to page **2/2**. Then select **Network User1** to open the user editor.



4. Once in the editor you can change User ID, Password, and set Admin rights. In the example below, the ID is icomtsr, the password is ********, and Admin rights are enabled. Icom suggests enabling Administrator privileges since functions like powering off the radio, and certain settings cannot be changed by non-Admin's.



5. Go to your PC and start the RS-BA1 Remote Utility using the outlined Setup Wizard to complete your configuration.