

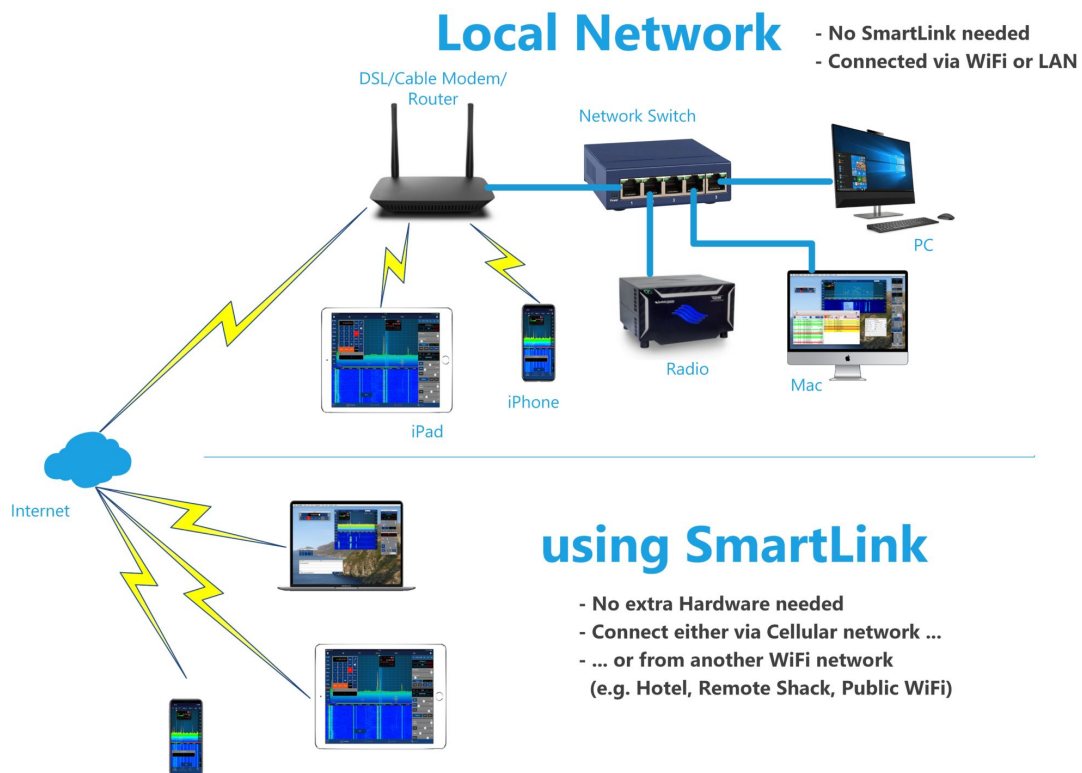
SmartLink Setup Guide

Background information

SmartLink is a Service from FlexRadio. SmartLink allows to connect to your FlexRadio from outside your home Network (or from outside the location of your Radio). If you are at the same location where your Radio is located, SmartLink **is not needed** and **can even not be used** so SmartLink is **only required if you like to connect to your Radio from outside your Home** (or location of your Radio).

SmartLink doesn't require additional Hardware. It just needs to be setup once.

Typical Installation



This diagram shows a typical installation. The **Radio** is connected to the **router** using a Network **Switch** and the switch is connected to the router. The Radio could alternatively also be connected directly to the router but not to a Computer. Other devices like Computers, iPhone and iPad can be connected via LAN cable or WiFi.

For using SmartLink (the lower part of the Diagram), no extra Hardware is needed. All Devices can either directly use the Cellular network or any another WiFi network.

Setting up SmartLink

Before you start setting up SmartLink, please ensure the

following:

- Your Radio must be connected to your router or a Network Switch which is connected to your router. **The Radio must not be connected to your PC or Mac.**
- **Don't use any Range extender** or WiFi-Mesh for the Radio connection.
- Your router needs to have access to the Internet
- Power cycle your Radio before starting the following setup procedure
- Ensure you have a Microphone with PTT connected directly to your Radio
- The following procedure needs to be performed from where your Radio is located. You need physical access to your Radio
- Setting up SmartLink requires to access your **routers configuration website** which is protected by a password. You need to have the credentials available and need to know how to access your routers configuration website.
- You either need a Windows PC running SmartSDR for Windows or a Mac, running SmartSDR for Mac to setup SmartLink.

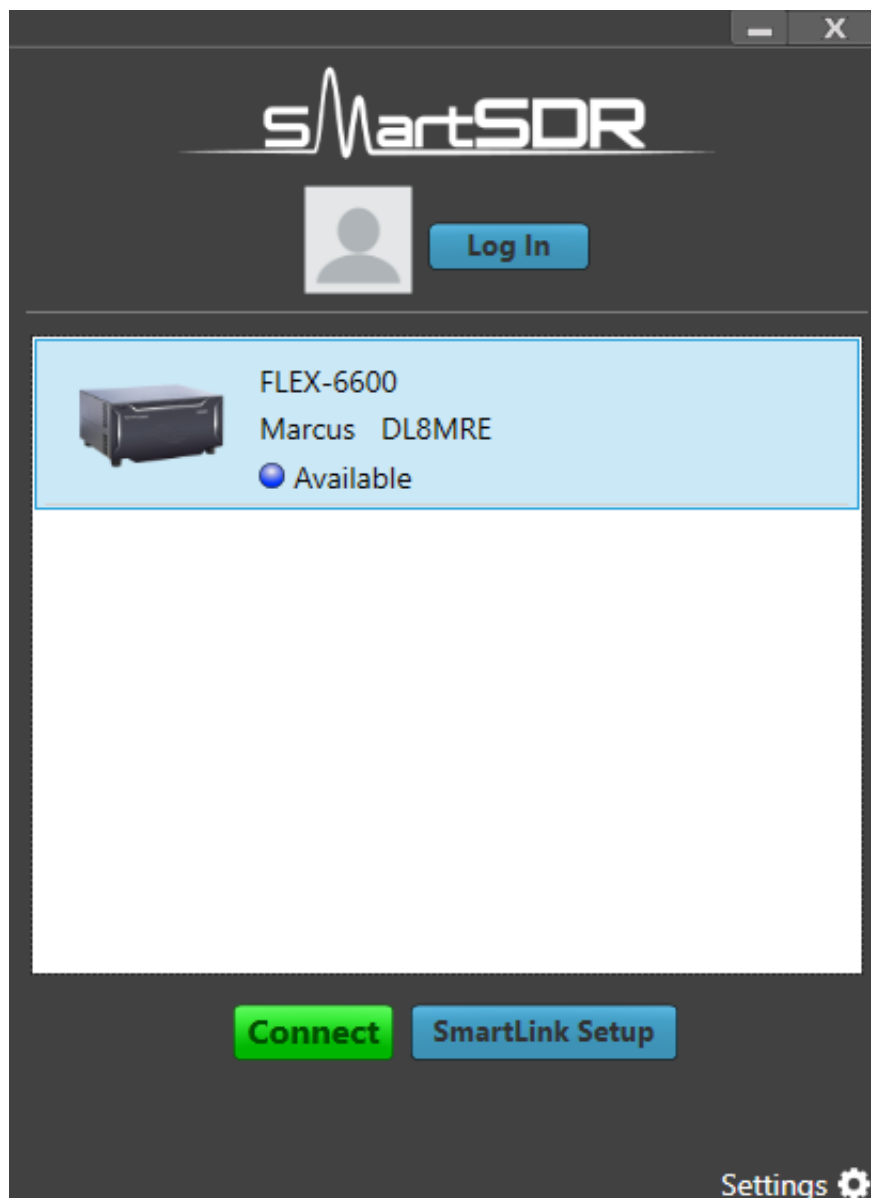
The following chapter explains how to setup SmartLink using SmartSDR for Windows on a PC.

If you are using a Mac, the procedure is a bit simpler and

is already explained in the Manual for the App. You can open the Manual from the Help menu or using this [link < https://manuals.roskosch.de/smartsdr-mac/#smartlink >](https://manuals.roskosch.de/smartsdr-mac/#smartlink).

Step 1 – SmartLink account registration

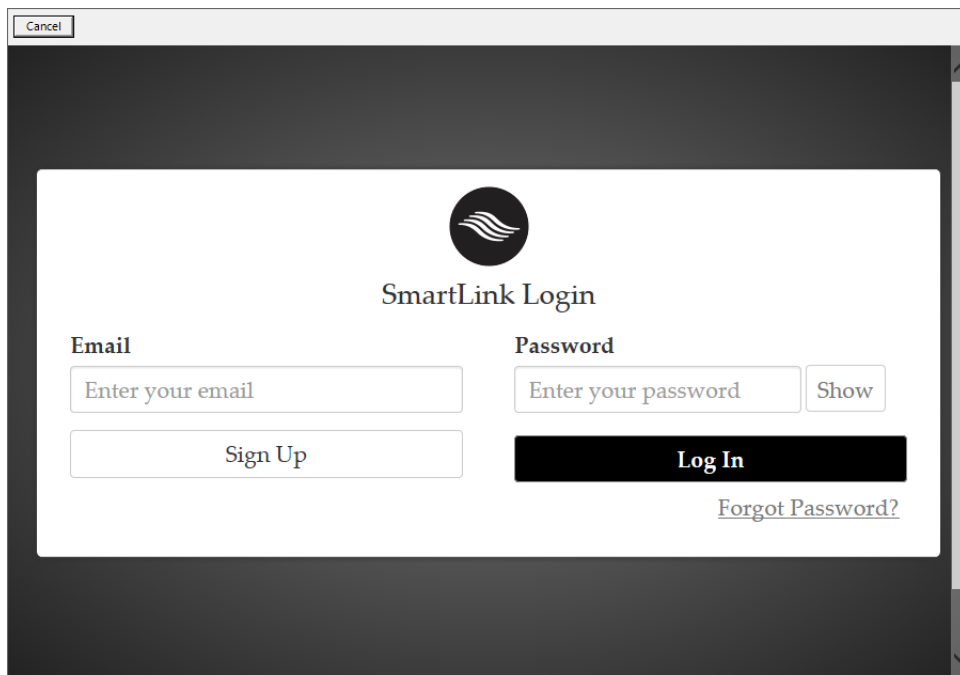
Start SmartSDR for Windows and click on “Log In”



Note: if SmartSDR directly starts in the Panadapter instead of showing this screen, select Settings -> Choose Radio / SmartLink Setup and confirm that you want to disconnect. Now you should see this screen.

Note: If you don't see the **Log In** button at the top, you have already created an account. In this case, click on the account name or the Icon at the top. You will see the account settings. Now click on logout and you should see the same screen as above with the "Log In" button.

Hitting the "Log In" button will show the SmartLink Login and Sign up screen.



The image shows a screenshot of a web application window titled "SmartLink Login". The window has a "Cancel" button in the top-left corner. The main content area is white and features a circular logo with three wavy lines above the text "SmartLink Login". Below the logo, there are two input fields: "Email" with the placeholder text "Enter your email" and "Password" with the placeholder text "Enter your password" and a "Show" button to its right. Below the "Email" field is a "Sign Up" button. Below the "Password" field is a "Log In" button. At the bottom right of the form, there is a link that says "Forgot Password?".

If you already have a SmartLink account, just enter the

Email Address and password, click on "Log In" and continue with Step 3.

If you don't yet have an account, enter an Email address and a new password and hit the Sign Up button.

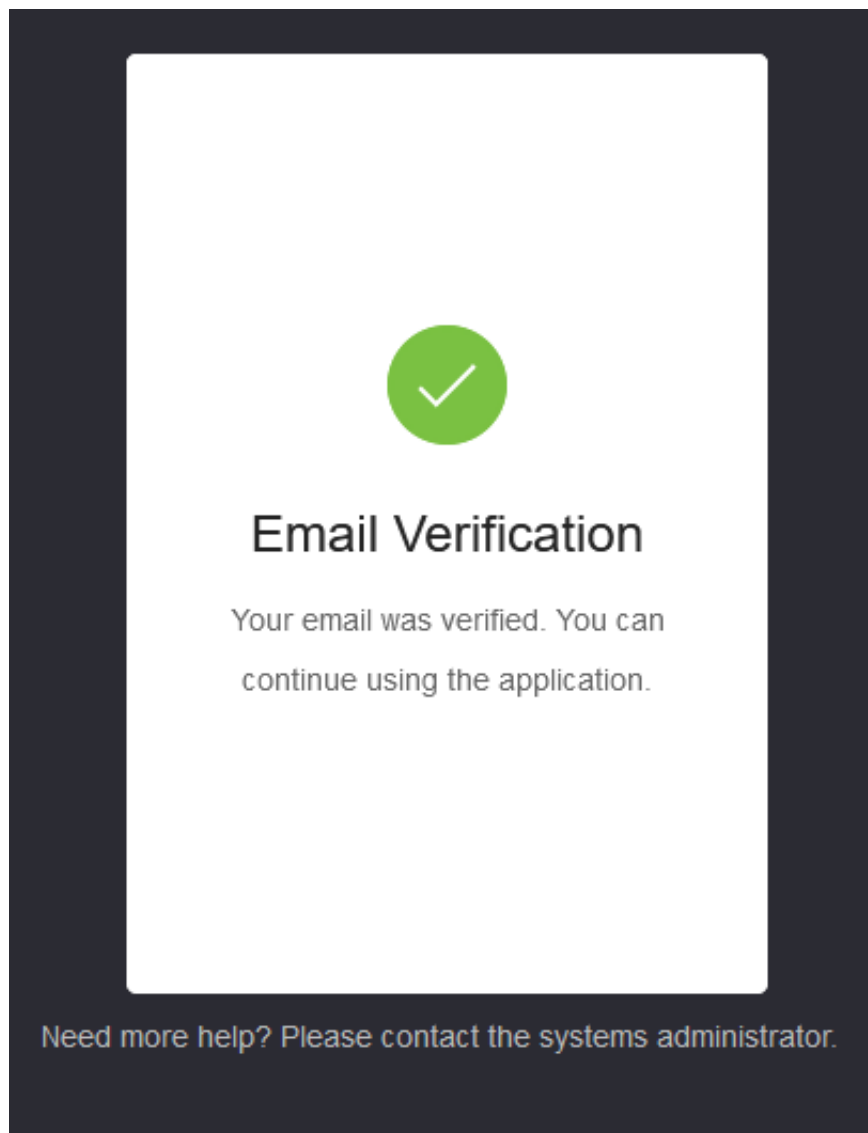
Note: Don't use an already existing password and keep this password safe as it will be your SmartLink account password.

Step 2 – Account verification

In case of a new Sign up, now check the mail inbox of the Email address you have entered for SmartLink and look for a mail with the subject "**Verify your email**".

Open this mail and Click on the included "**Verify your Account**" link or button.

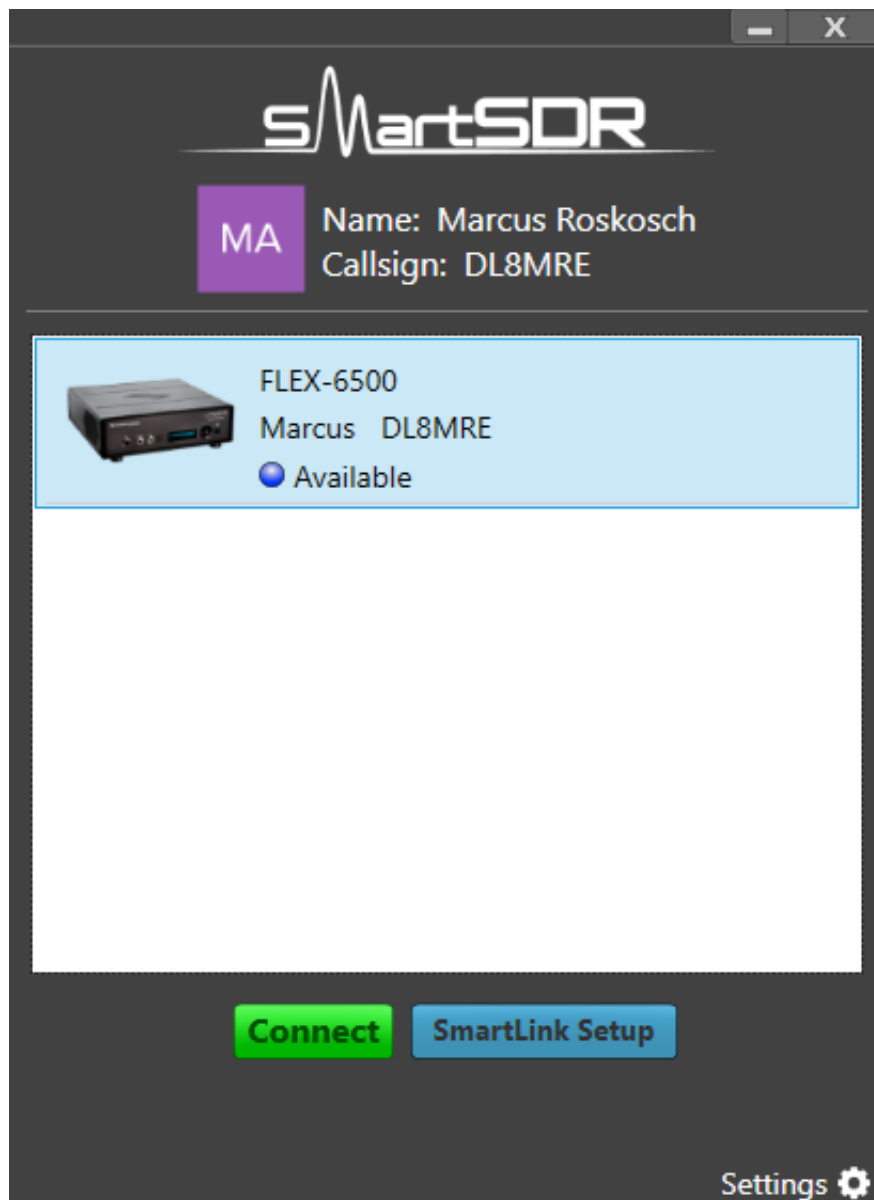
Next you should see something like this:



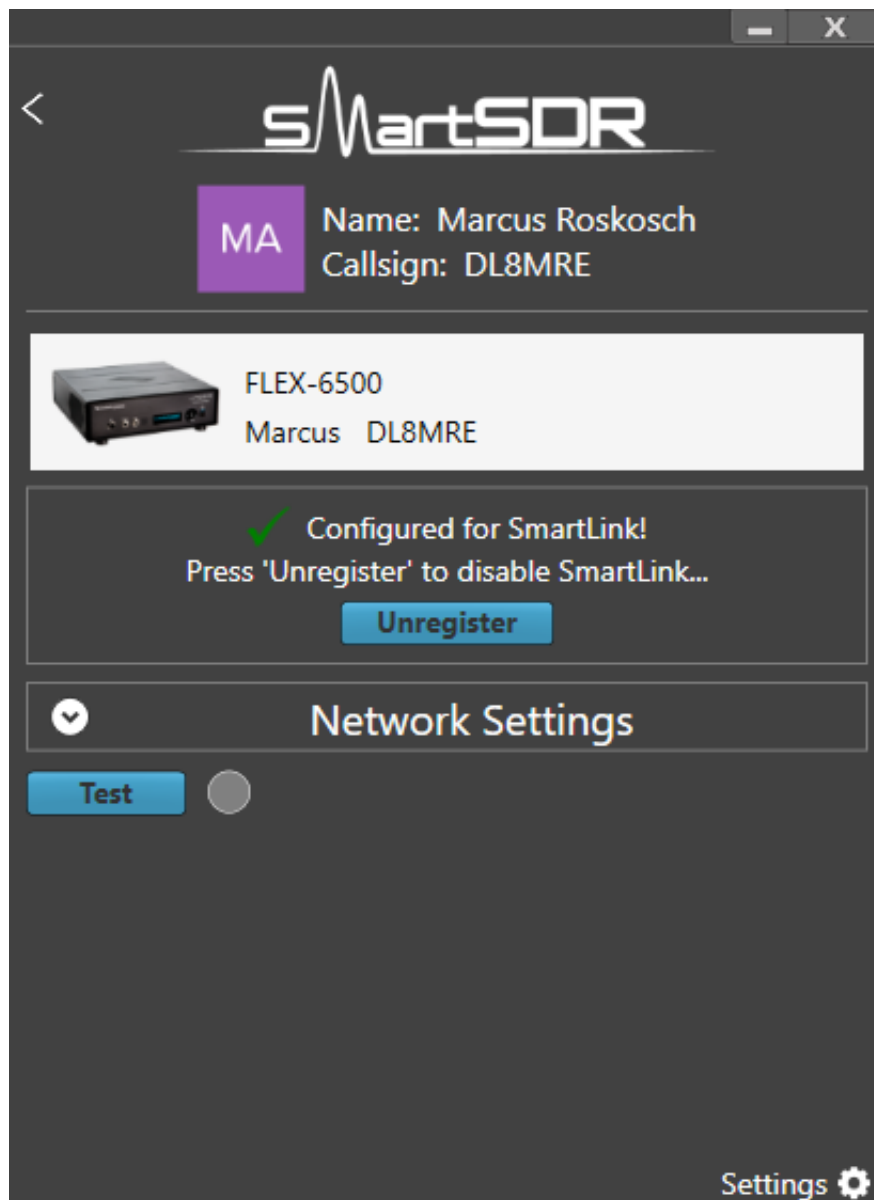
Now, your SmartLink account is ready to use for registering your Radio.

Step 3 – Radio Registration

Back on the SmartSDR Radio chooser screen which will now show your account information at the top.



Now click on "SmartLink Setup"



If your account is already registered as shown above, click on "Unregister".

To complete unregistering you need to press the PTT Button of the Microphone on your Radio.

After successful unregistering you should see a message "! Not configured for SmartLink".

Now close SmartSDR for Windows and start it again.

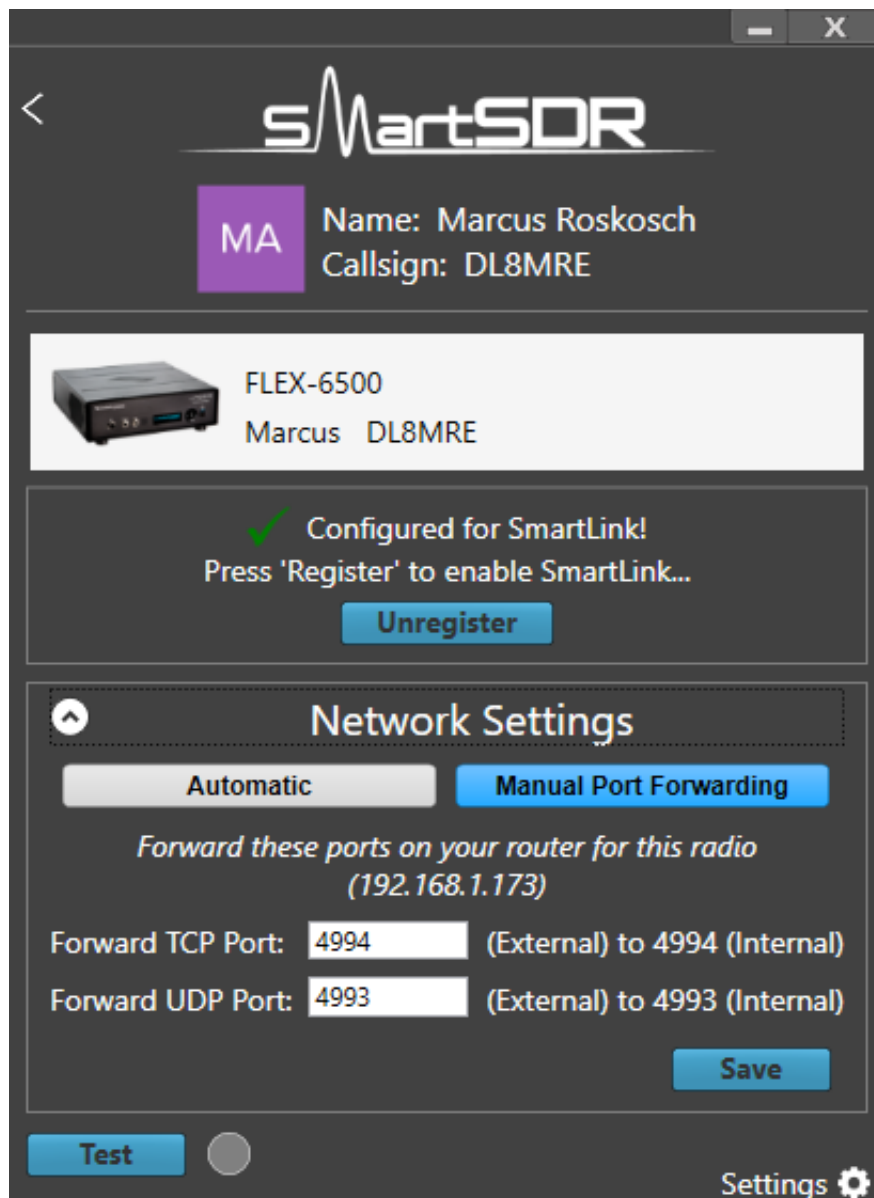
Click again on SmartLink Setup.

Click on "**Register**".

Now you have to press the PTT button again.

You should now see the same screen as above which tells you that SmartLink is registered.

Next click on the small button on the left side of "**Network Settings**".



Select **"Manual Port Forwarding"**.

Enter **4994** in the first field (for the **TCP** Port forwarding).

Enter **4993** in the second field (for the **UDP** Port forwarding).

Click on **Save**.

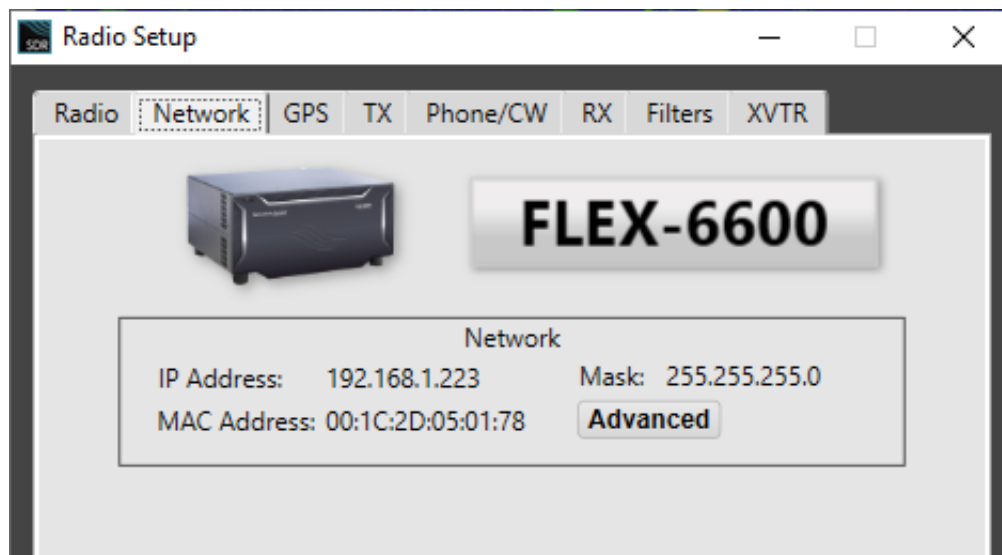
Note: FlexRadio recommends using "Automatic" but from experience, this Automatic mode turned out to be very unreliable and will usually fail often at a later time. So it is recommended to use the manual Port Forwarding instead.

Note: If you have more than one FlexRadio, you can't use the same ports for each Radio. Instead you need to use different port numbers (e.g. 4996 for TCP and 4995 for UDP etc.) and the same port numbers need to be added to the Router configuration as explained in the next step.

Step 4 – Router Configuration

This is the most difficult part and depends on the Internet Router you are using.

First you need to find out the **IP Address** of your Radio. For this, you can close and Start SmartSDR again and select "Settings" and "Radio setup..." from the Menu. On the Radio Setup screen select the "**Network**" tab.



Now you need to open the configuration website of your Router.

What you need to do here is in general:

To open port **4994** from **outside** to the same port **4994** to the **inside** to the **IP Address of your Radio** for the **TCP** Protocol

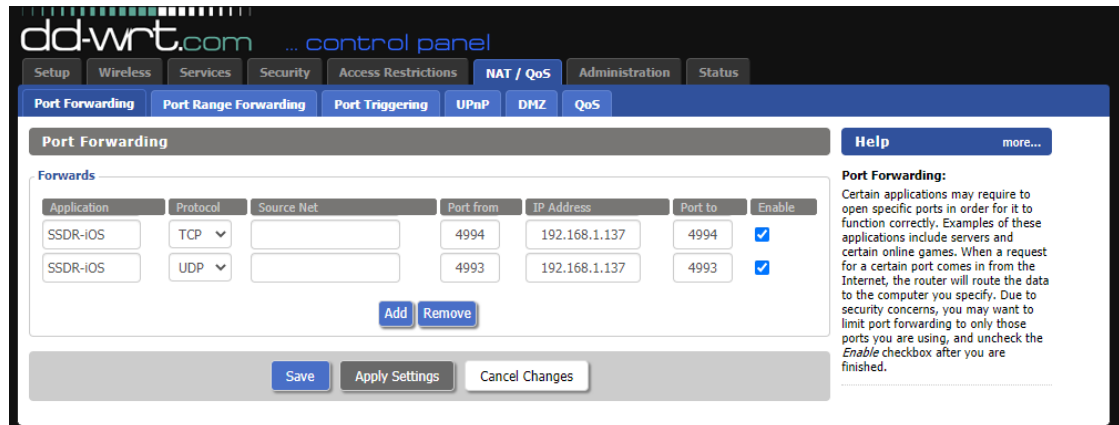
and

To open port **4993** from **outside** to the same port **4993** to the **inside** to the **IP Address of your Radio** for the **UDP** Protocol

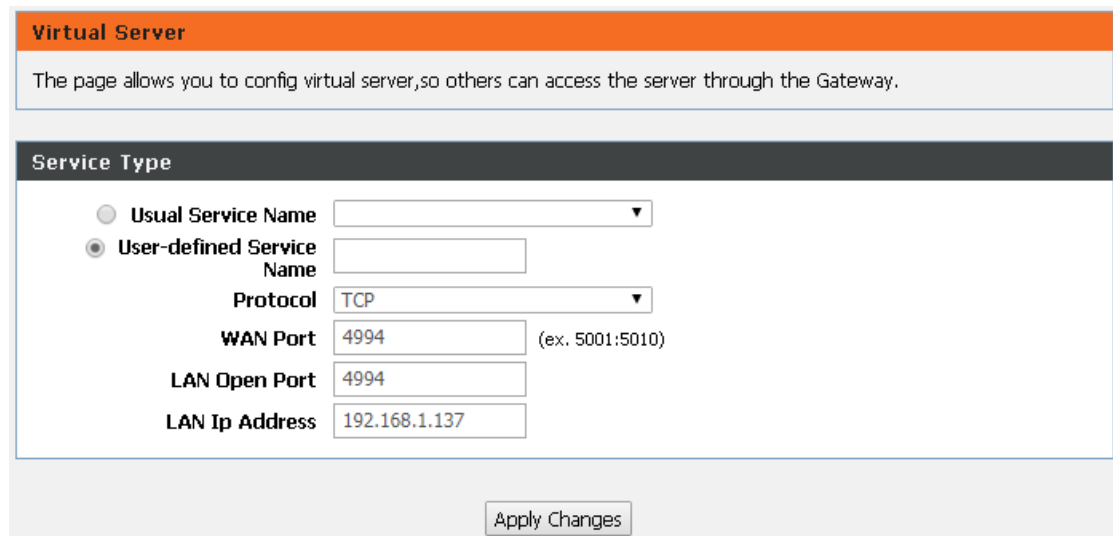
So for the following, please note that there are two different ports for two different Protocols (TCP and UDP).

You now need to locate the configuration page of your Router where you can enter these two changes.

Such a configuration screen could look like this:



But it could also look like this:



The IP Address entered here must be the IP Address of your Radio.

Most routers allow to enter different port numbers for

inside and outside but the port numbers need to be the same for inside and outside.

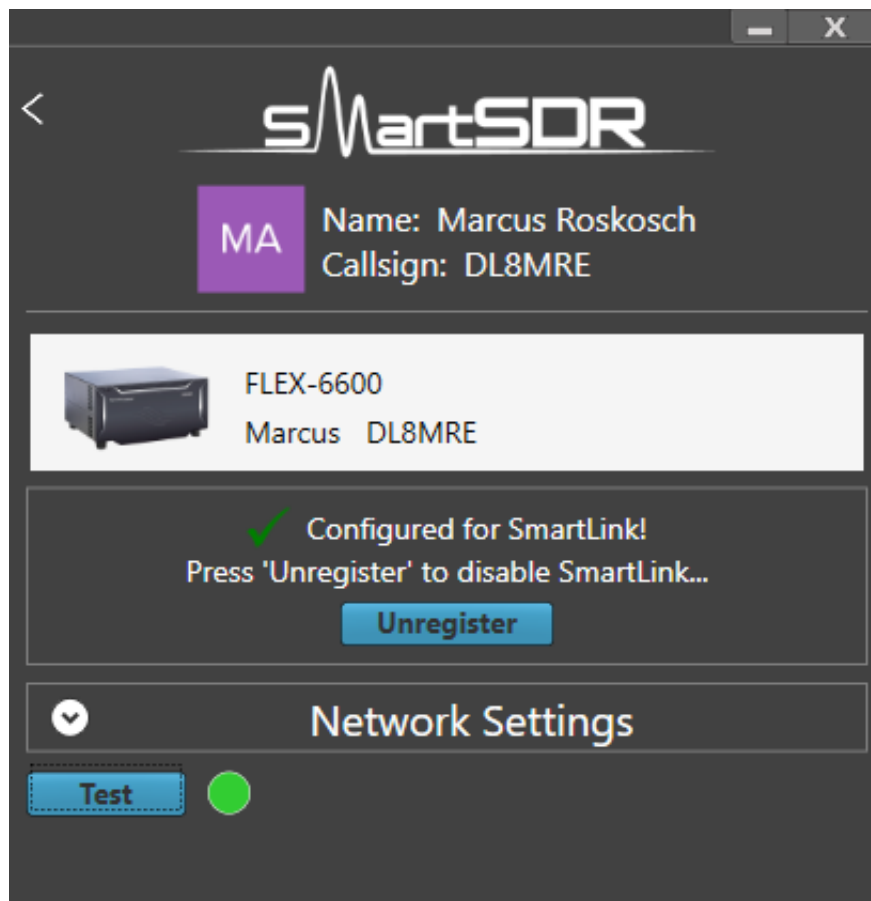
Some routers allow to setup portforward for both protocols (TCP and UDP) at the same time. However, it is suggested to set them up separately.

Some routers may use different terms for "portforward".

Finally, look for router settings which will keep your Radio IP Address the same, otherwise your Radio may get a different IP Address in the future and the portforwarding no longer works. This feature of your router may also be called fixed-ip or something like "static leases" in case of the DD-WRT router or "Always assign the same IP address to this device".

Step 5 – Testing

Once that's done, go back to SmartSDR and use the "Test" button and see if the status is green.



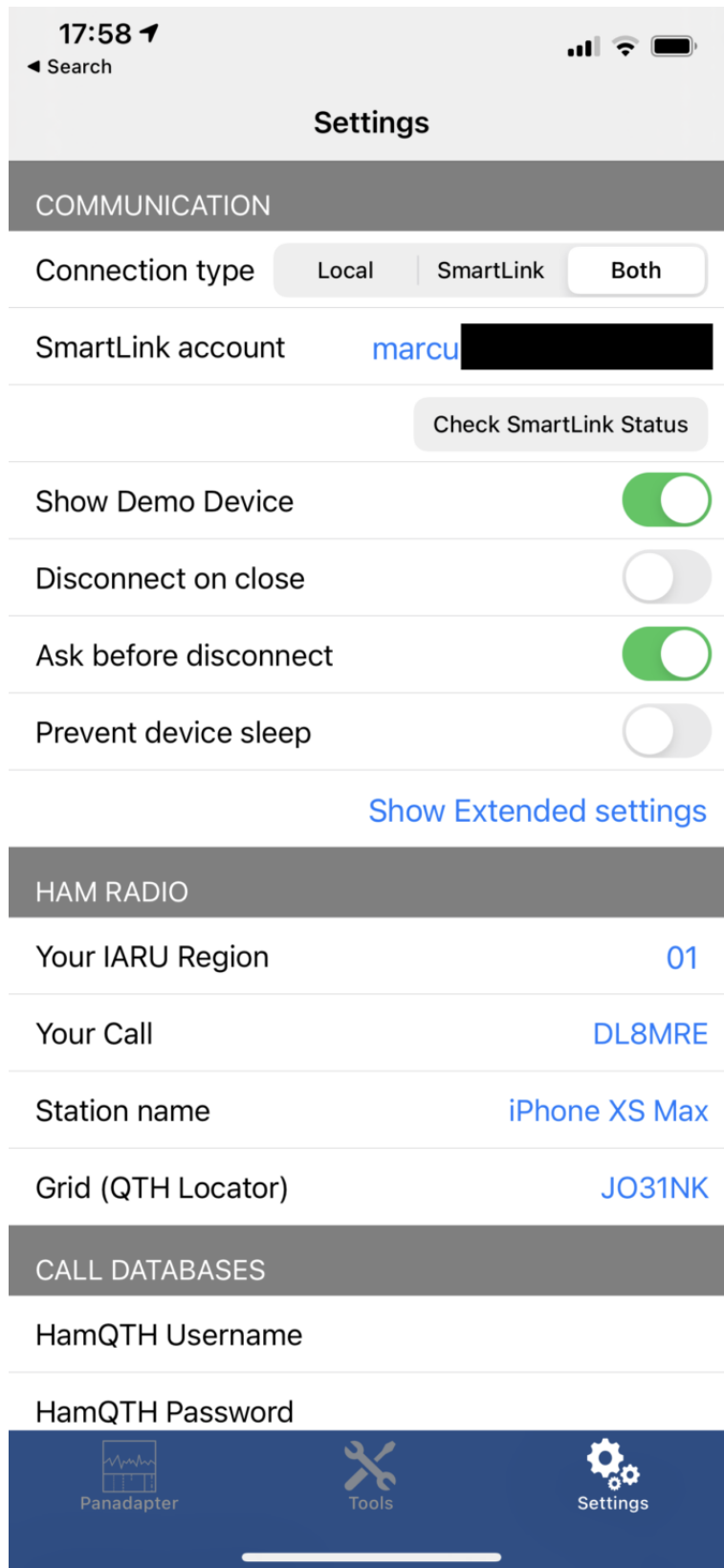
Step 6 – Using SmartLink with SmartSDR for iOS

Start the iOS App.

Ensure that you are not using WiFi or on the same network where your Radio is.

Explanation: SmartLink Will not work when you would be able to use a direct connection. It can only work if you are either on Cellular network or at a different location / WiFi.

Go to **Settings**.

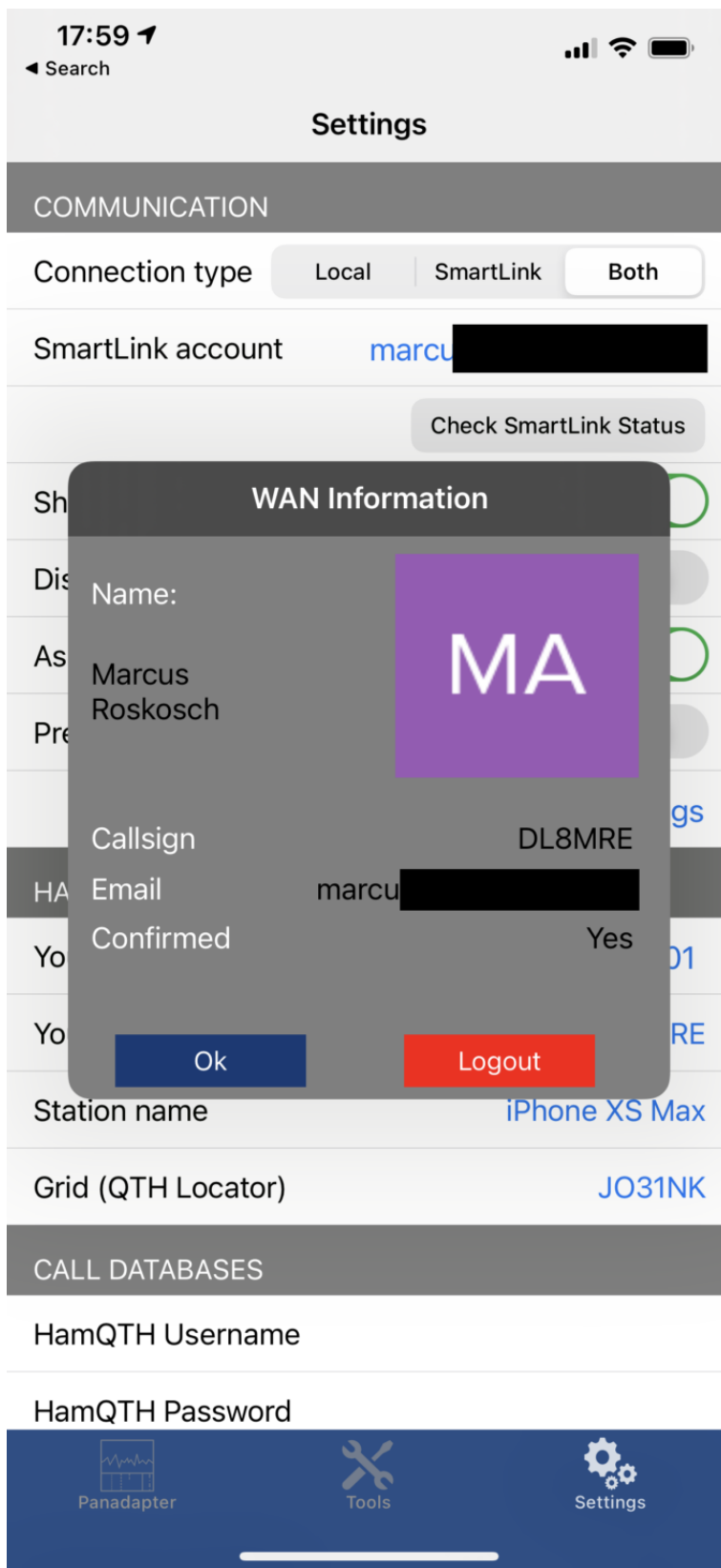


Select **"Both"** for connection type.

Tap on **"Check SmartLink Status"**.

Now you may need to enter your SmartLink account credentials.

It should show a "WAN Information" screen and **"Confirmed: Yes"**.



Now tap on the **Panadapter** tab.

Tap on the screen to **connect**.