

RFXtrxLAN kit



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1. Introduction

The RFXtrxLAN can have the RFXtrx433XL or RFXtrx868XL transceiver installed.
The RFXtrxLAN is not designed for the RFXtrx433E but can be used if you have soldering experience.

The transceiver is accessed using TCP/IP.

The default settings are:

- TCP port 10001 and DHCP
- Username/Password: admin / admin

Important:

The USB connection of the RFXtrx must not be used!!

It can't be used because the data connection is not present, and the USB power is connected to the 5V power adapter.

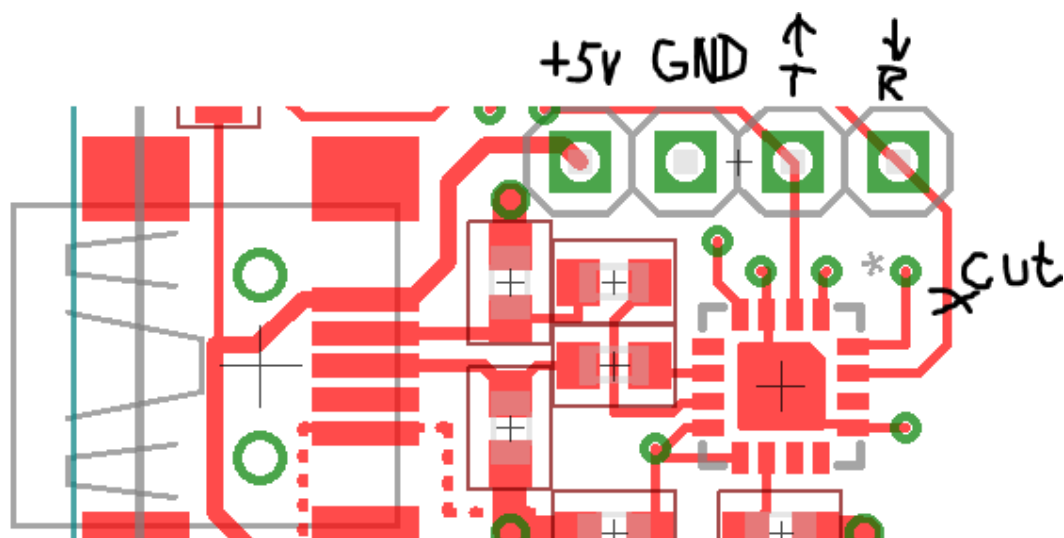
2. Contents of the kit.



3. Install the RFXtrx433XL or RFXtrx868XL in the RFXtrxLAN.

Important:

First thing to do is cut the PCB trace between the connection point R and the FT230X pin 15.



With a PTF (PressToFit) connector in the RFXtrxLAN:

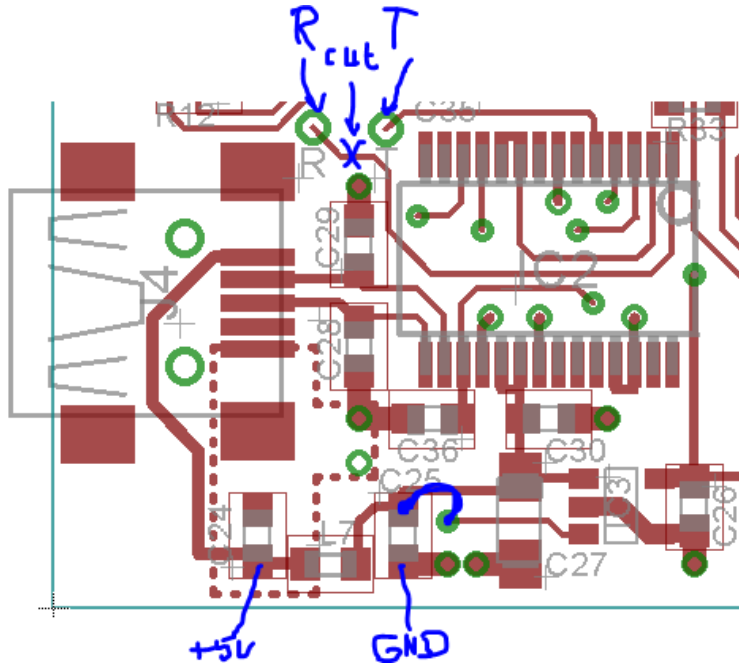
- Press the RFXtrx on the PTF with the antenna connector upwards.

4. Install the RFXtrx433E in the RFXtrxLAN.

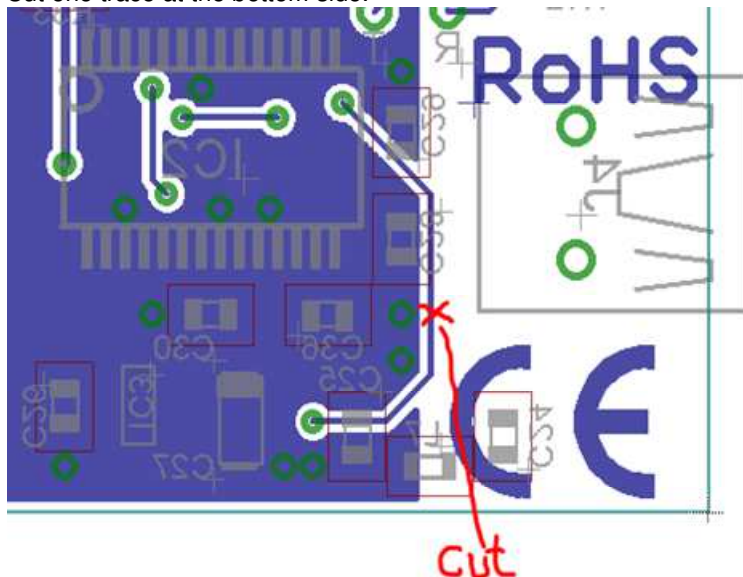
The RFXtrxLAN is not developed to have the RFXtrx433E installed in the RFXtrxLAN in an easy way but it is possible with some solder and glue work.

It is not advised for people without soldering experience.

1. Cut one trace at the top side.
2. Remove the 4 pins header from the RFXtrxLAN PCB. (or request RFXCOM to deliver the RFXtrxLAN without the 4 pins header)
3. Solder 4 wires between the RFXtrxLAN PCB and the RFXtrx433E.
4. Fix a small 5mm bar with double sided tape next to IC2 (FT232 chip) and position the RFXtrx433E on the RFXtrxLAN PCB so that the USB connector fits in the front panel and the antenna connector is correct positioned in the case.



Cut one trace at the bottom side.



5. Installation of the RFXtrxLAN

Connect the antenna.

Connect the 5V/1Amp DC power supply and the Ethernet cable.

The red LED of the RFXtrx should be on for about 3 seconds followed by a short blink of the green/yellow LED. And the right LED on the Ethernet connector should blink and the left LED should be on.

Note: Do not locate the RFXtrxLAN close to metal objects, electronic equipment or power lines.

6. LAN version

6.1. Configure the LAN controller

The RFXtrxLAN is delivered with DHCP.

To find the IP address of the RFXtrxLAN use for example the free NetScan tool

<https://www.netscantools.com>

Use a browser to configure the LAN-controller and enter the IP address of the RFXtrxLAN, for example: <http://192.168.1.237> or use the Host Name <http://rfxtrxlan>

Default Username / Password: admin admin

Set a fixed IP address for normal use. (select DHCP OFF) or configure the RFXtrxLAN in your router. If multiple RFXtrxLAN devices are in use set the Host Name unique.

Advice: If you change the Username/Password write it down on a label inside the RFXtrxLAN

The screenshot shows the 'System Settings' web interface for the RFXtrxLAN. The page title is 'System Settings' with a subtitle 'Change the device system settings'. The interface is organized into several sections, each with a green header:

- Authentication:** Contains 'User Name' (admin) and 'Password' (masked with dots).
- Basic Settings:** Contains 'Host Name' (RFXtrxLAN).
- WAN Settings:** Contains 'DHCP' (ON) and 'DNS' (10.10.100.254).
- Telnet Settings:** Contains 'Enable' (ON), 'Telnet Port' (23), and 'Echo' (ON).
- Web Settings:** Contains 'Enable' (ON) and 'Web Port' (80).
- NTP Settings:** Contains 'Enable' (OFF).

6.2. Configure the Serial Port

The COM port is delivered with the correct settings.

Serial Port Settings

change the device serial port settings

| Basic Settings | |
|----------------|-------|
| Baud Rate | 38400 |
| Data Bit | 8 |
| Stop Bit | 1 |
| Parity | None |

| Buffer Settings | |
|-----------------|-----|
| Buffer Size | 512 |
| Gap Time | 50 |

| Flow Control Settings | |
|-----------------------|---------|
| Flow Control | Disable |

| Cli Settings | |
|--------------|---------|
| Cli | Disable |

| Protocol Settings | |
|-------------------|------|
| Protocol | None |

6.3. Configure the TCP communication

The RFXtrxLAN is delivered with the correct configured TCP Server with port 10001
You can change the Local Port and Max Accept if required.
Set Max Accept to 1 unless you want to connect the RFXtrxLAN with multiple applications

Communication Settings

change the device socket settings

Basic Settings

| | |
|---------------|------|
| Name | netp |
| Buffer Size | 512 |
| Keep Alive(s) | 60 |
| Timeout(s) | 0 |

Protocol Settings

| | |
|------------|------------|
| Protocol | Tcp Server |
| Local Port | 10001 |
| Max Accept | 5 |

Security Settings

| | |
|----------|---------|
| Security | Disable |
|----------|---------|

Route Settings

| | |
|-------|------|
| Route | Uart |
|-------|------|

7. WiFi version

7.1. Configure the WiFi module

For the first time you connect the RFXtrxLAN using a laptop.

Power the RFXtrxLAN and connect the WiFi network with SSID HF-A11x_AP

When the wireless connection is OK, open a web browser and access <http://10.10.100.254>

Connect with username / password: admin / admin

7.2. Set STA (station) mode

Working Mode Configuration

You may configure the Uart-WiFi module wifi mode and data transfer mode.

AP Mode:
Access Point

STA Mode:
Station Mode

Data Transfer Mode

7.3. Configure the STA settings

Configure the AP to be used, click on Search and select your WiFi network.

Set the fixed IP address for the TCP server, for example

192.168.1.100

255.255.255.0

192.168.1.255

8.8.8.8

STA Interface Setting

You could configure STA interface parameters here.

| STA Interface Parameters | |
|--------------------------|--|
| AP's SSID | <input type="text" value="YourWiFi"/> <input type="button" value="Search..."/> ← |
| MAC Address (Optional) | <input type="text"/> |
| Security Mode | <input type="text" value="WPA2PSK"/> ← |
| Encryption Type | <input type="text" value="AES"/> ← |
| Pass Phrase | <input type="text" value="????????"/> ← |

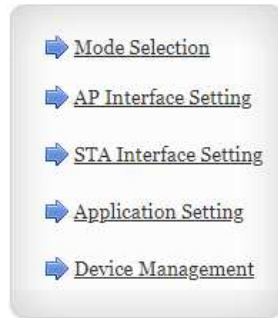
WAN Connection Type:

| Static Mode | |
|-----------------|--|
| IP Address | <input type="text" value="0.0.0.0"/> ← |
| Subnet Mask | <input type="text" value="0.0.0.0"/> ← |
| Default Gateway | <input type="text" value="0.0.0.0"/> ← |
| DNS | <input type="text"/> ← |

7.4. Configure the UART.

Select 38400,8, None, 1, Disable

Set MAX TCP num to 1 unless you want to connect the RFXtrxLAN with multiple applications.



Wifi-Uart Setting

You could configure the Uart parameters and network parameters of the wifi-uart application.

| Uart Setting | |
|--------------|---------|
| Baudrate | 38400 |
| Data Bits | 8 |
| Parity | None |
| Stop | 1 |
| CTSRTS | Disable |

Apply Cancel

| UART AutoFrame Setting | |
|------------------------|---------|
| UART AutoFrame | Disable |

Apply Cancel

| Network Setting | |
|--------------------------|---------------|
| Mode | Server |
| Protocol | TCP |
| Port | 10001 |
| Server Address | 10.10.100.100 |
| MAX TCP Num. (1~32) | 32 |
| TCP Time out (MAX 600 s) | 300 |

Apply Cancel

8. Restore factory settings

Version without Restore button:

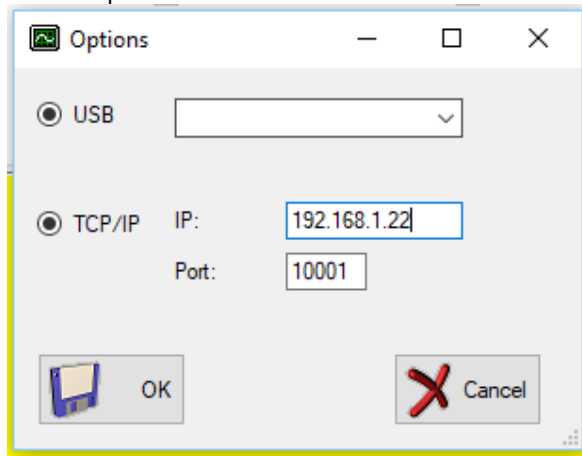
- Make a connection for at least 3 seconds between pin 6 and 10 of the LAN controller.

Version with Restore button:

- To restore the module to factory settings, press the reload button for at least 3 seconds.

9. Configure the transceiver

The transceiver can be tested and configured with the RFXmng program.
Set the IP address of the RFXtrxLAN or use the Host Name.
Connect port 10001:

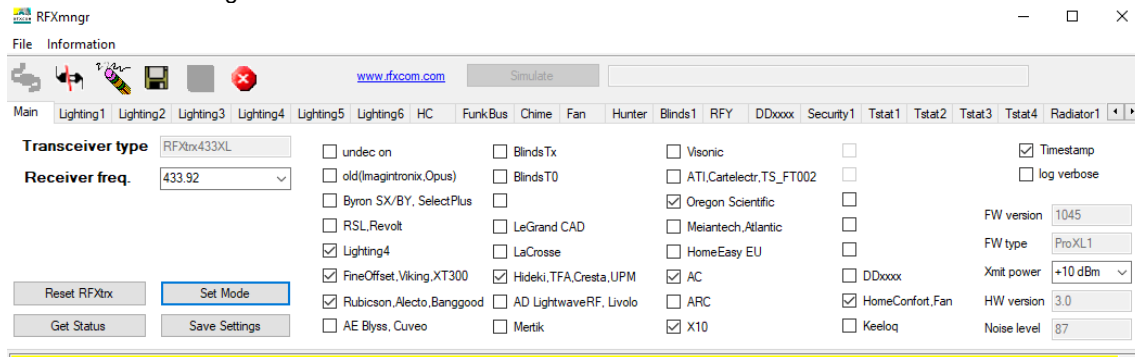


Select the protocols necessary for receive and click Set Mode followed by Save Settings.

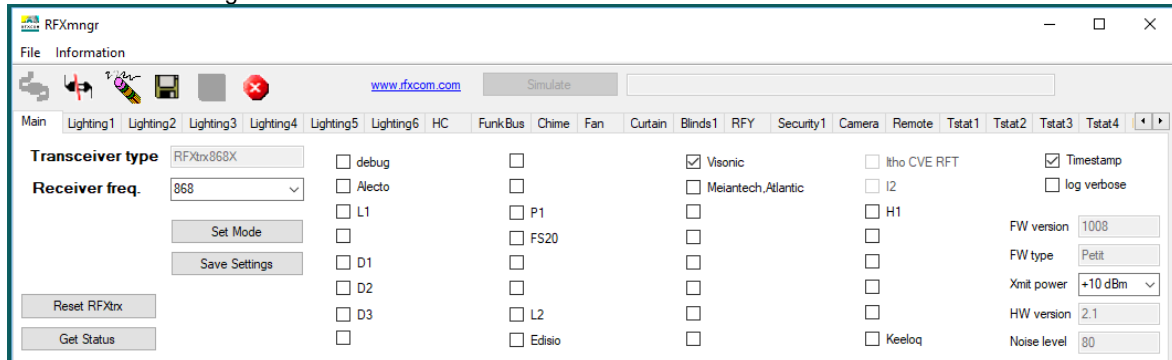
No need to select protocols for transmit!

Note that you can only select 1 protocol for receive in the RFXtrx868XL because each protocol uses different frequencies and modulation!!!

RFXtrx433XL settings:



RFXtrx868XL settings:

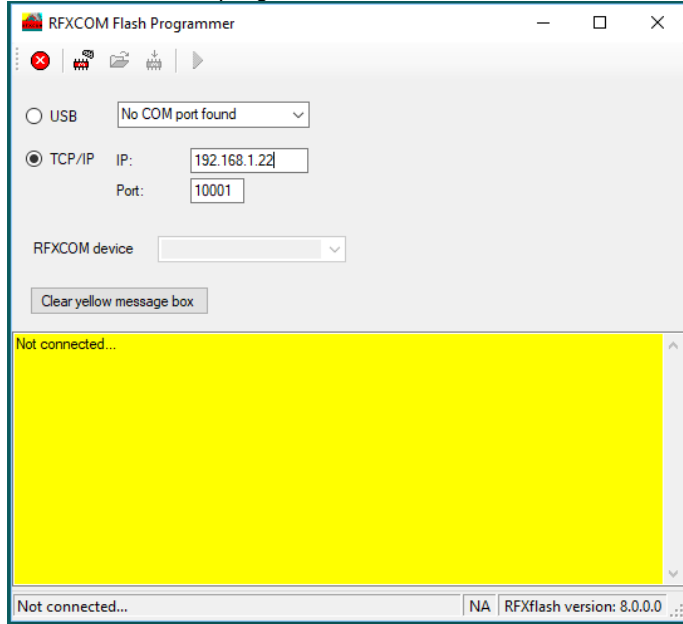


10. Update transceiver firmware

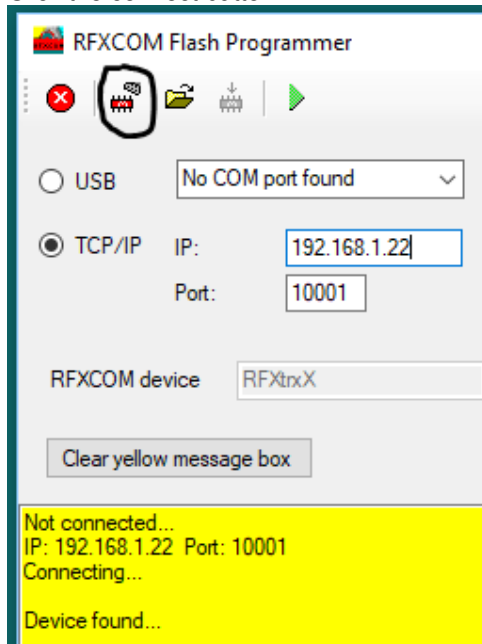
If required, the transceiver firmware can be updated with the RFXflash program.

Stop all connections with the transceiver and be sure that no other program connects the transceiver during flash of the transceiver!

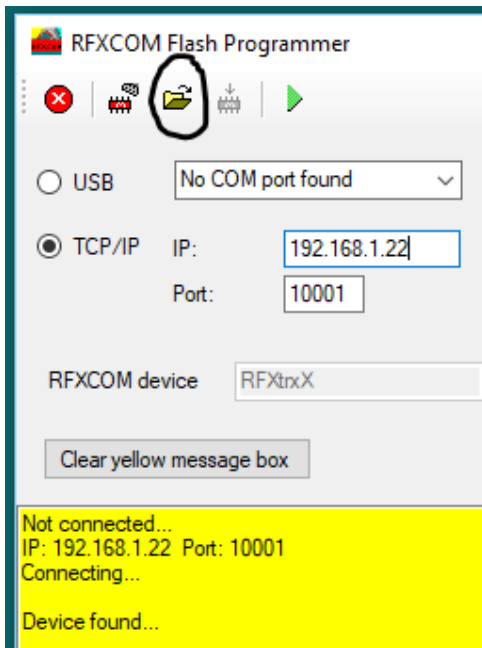
Start the RFXflash program, select the IP address and select the port (normally 10001).



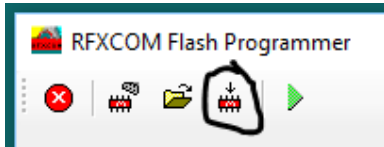
Click the connect button:



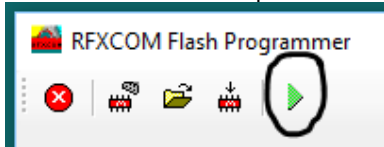
Click the Open HEX file and select the correct firmware file.



Click the Write device button. The firmware will be flashed in about one minute:



At the end of the flash procedure click the Normal Execution Mode button:



Test the RFXtrx with RFXmngnr.

11. Warning:

- RF signals are possible disturbed, and it has not been justified for this equipment at uses in circumstances where life-threatening or dangerous situations are possible.
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14. Revision History

Version 0.0 October 7, 2021

Initial version

Version 1.0 October 25, 2021

Installation of RFXtrx433E added

Version 2.0 November 5, 2021

Don't use USB added

Restore factory setting text added

Version 2.1 December 13, 2021

PTF version only