SatNOGS

(Optional) TP-Link OpenWRT WR703N configuration

The OpenWRT router can be used to control any rotator by running rotctld. It can be used to control all kinds of AZ-EL rotators (yaesu g5500, satnogs rotator) which are supported by the hamlib library

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INTRODUCTION

Important: Using a OpenWRT router is not part of the baseline setup. You can connect a usb rotator and rtlsdr-dongle directly to your hardware which runs the satnogs client, such as your raspberry pi

Important: Running rtlsdr on the router is very experimental and generally not recommended anymore. There are known problems with the outdated rtlsdr version which is supplied by open wrt repositories.

This can be used to upgrade any router to work as a control box for the rotator. However the files are specific for WR703N.

The little box runs a server demon that can be reached through TCP/IP to connect to the USB interface controller. The script is configured to interface with the Arduino Satnogs Rotator Controller by default.

PARTS:

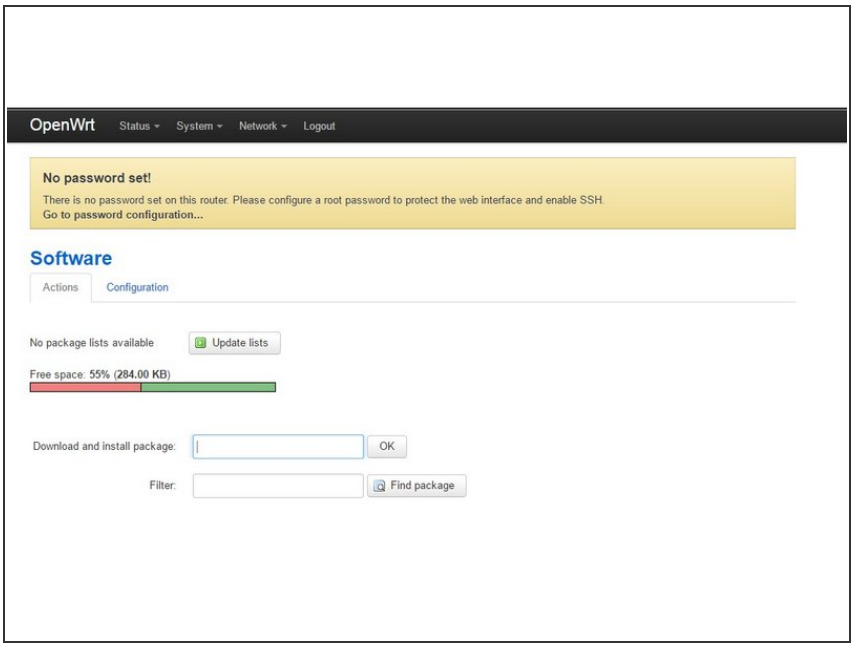
- OpenWRT compatible router with USB (1)

Step 1 — Flash OpenWRT

⚠ Check your version of WR703N. Proceed only if your version is <=1.6. If you version is 1.7 please consult OpenWRT documentation.

- Download firmware Chaos Calmer 15.05.1: https://downloads.openwrt.org/chaos_calm...
- Follow instructions to get through chinese interface: https://wiki.xinchejian.com/wiki/Install...
- If Version 1.7 (firmware 3.17.1 Build 140120 Rel.56593n) http://www.shadowandy.net/2015/03/flashi...

Step 2 — Preparing OpenWRT



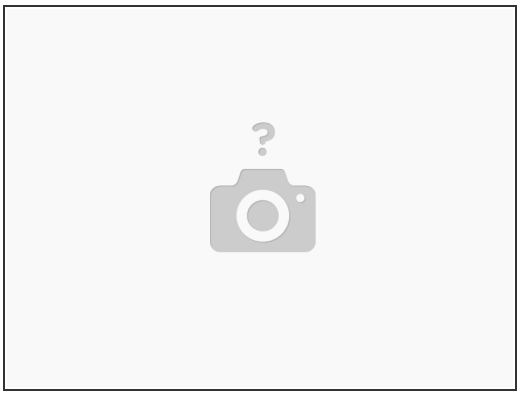
- 3. Set up the router (network, password, wireless, etc) via the web interface (http://root@192.168.1.1)

ⓘ For the next steps router must have internet connection. This is possible by configuring it as a WiFi client, or alternatively as LAN DHCP client and connect it then to your home network.

- Go to "System, "Software" and click "Update Lists".
- Install 'hamlib' and'hamlib-easycomm' packages

ⓘ You may install 'rtl-sdr' however there may not be enough space.

Step 3 — Install Satnogs Script



- Get the satnogs.sh file on the router: https://raw.githubusercontent.com/satnog...
- Alternative Link (No SSL) http://www.planetsofa.de/satnogs/satnogs...

⚠ There are two ways usually to do this. However transfer through SCP fails (no sftp server) and direct download from github fails (no openssl).

- SSH into server, use wget URL on file link above to download.
- 6. Make satnogs.sh executable (chmod +x satnogs.sh)
- 7. Add 'satnogs.sh' script to '/etc/rc.local'. Note: vim editor is available on openwrt.
- 8. Reboot router