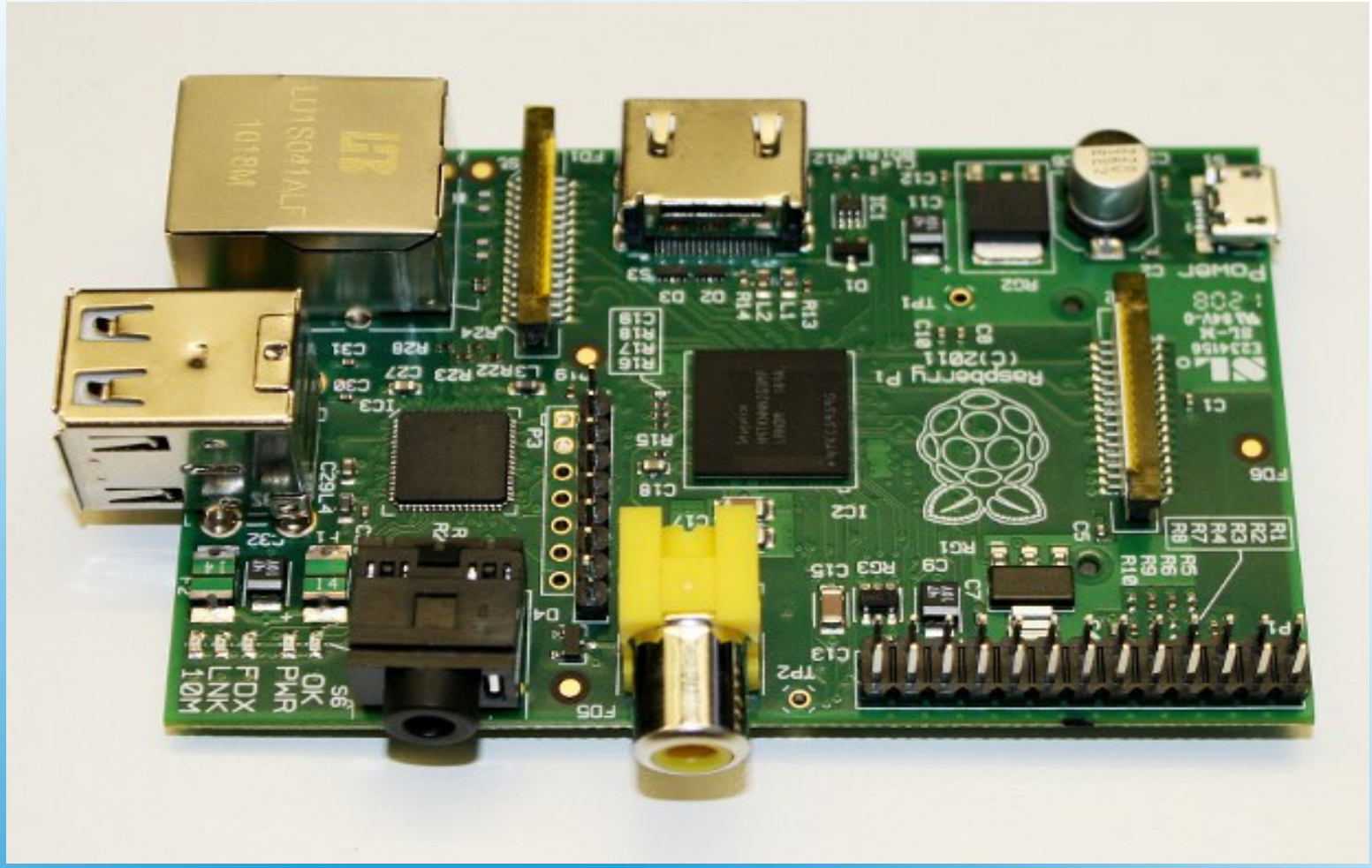


Raspberry Pi

- **Low Power Consumption** (3.5 W)
- **Small Single-Board Computer**
- **Cost Effective**
- **Raspian Operating System**
  (optimized Linux Debian, works with other H/W)
- **Available Software**
- **Easy to Use**

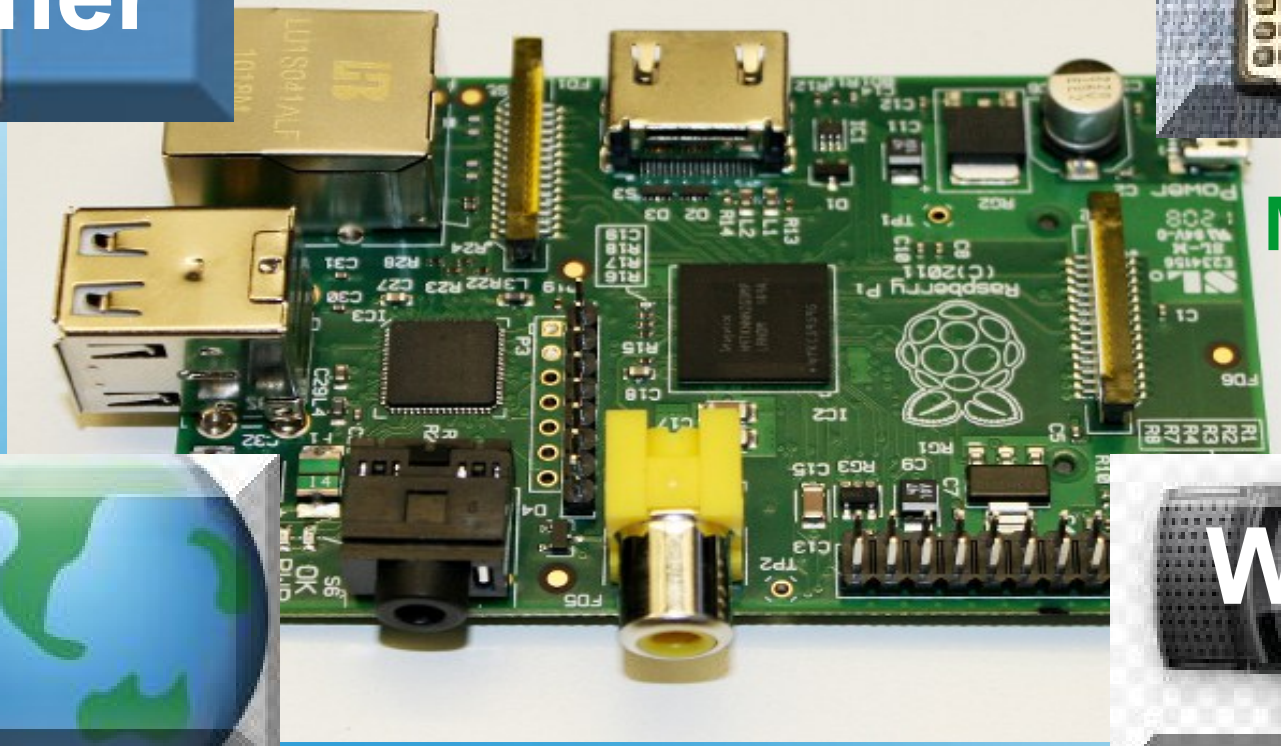
Why Raspberry Pi ?

- **Weather Station Interface**
- **APRS Igate/Digipeater**
- **Webcam**
- **Home Webserver**
- **SDR Server**
- ..... and many more

Applications

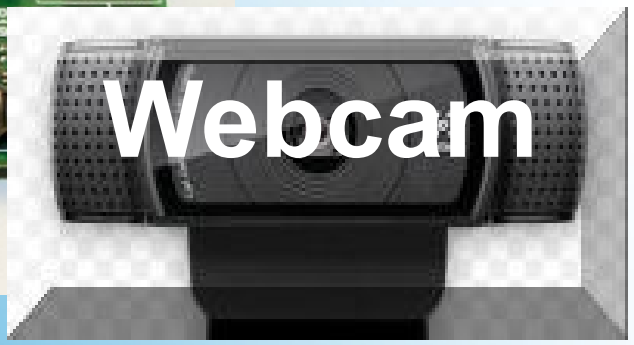
Remote Access

Power Measurement



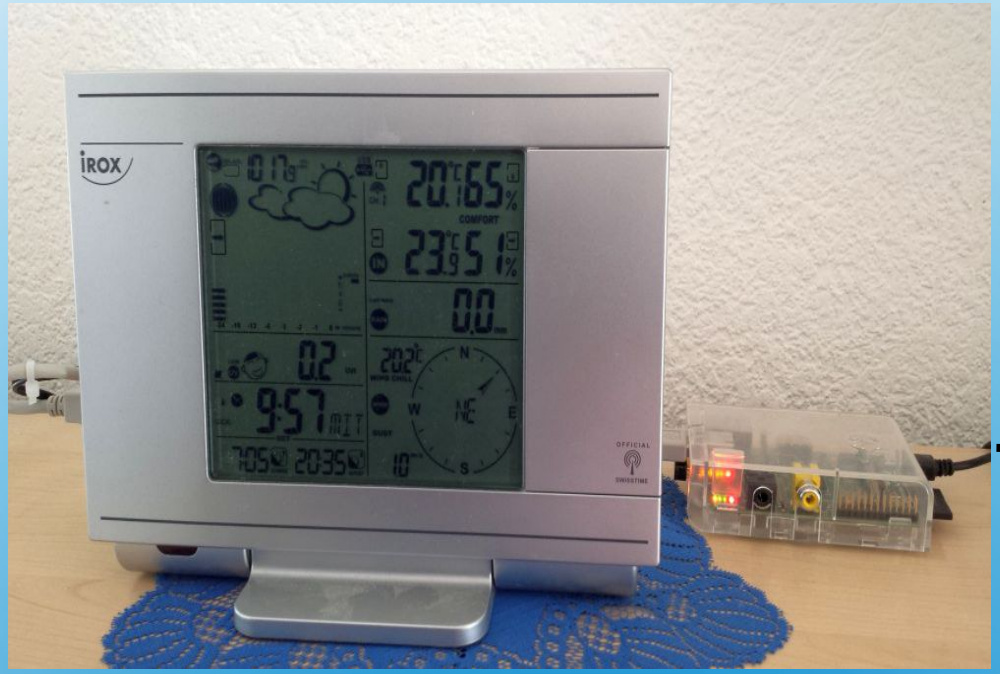
Media Server

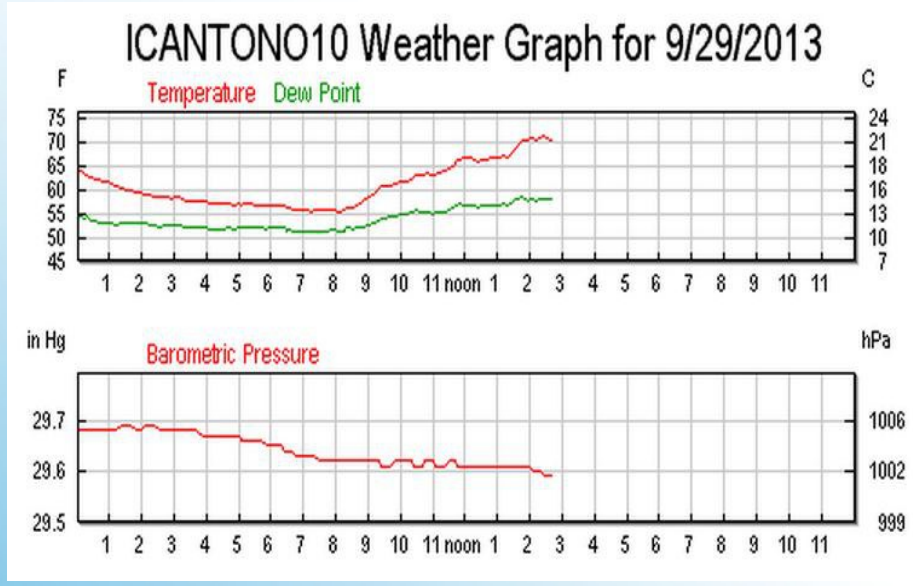
FTP



Home Webserver

Applications for Raspberry Pi





- **Wunderground**
- **CWOP** • **APRS.fi**

Stand-alone Version

Weather Station

Installation Steps

- **Install Raspian Operating System**
- **Install FTP Server**
- **Download 'Weather Display' Software**

  (WD for Linux console version for raspberry pi)
- **Prepare 'Weather File'**
- **Register for a 'Wunderground' Account**
- **Register for a CWOP Account** (also APRS)
- **Edit config.txt**

Wunderground and Wunderoid for Android

Android:

Wunderground

Wunderoid

iPad:

WunderMap

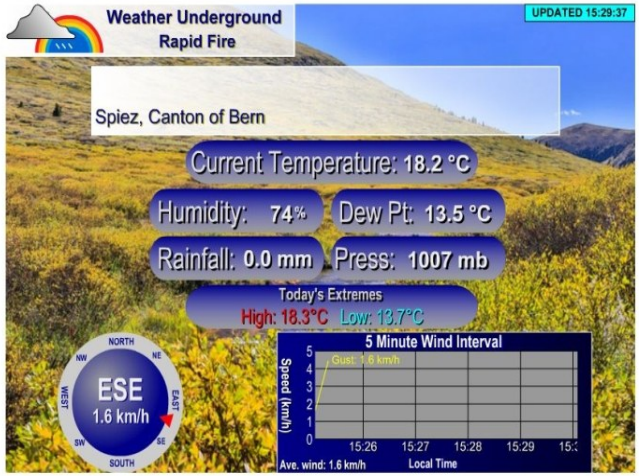
iPhone:

Weather Underground

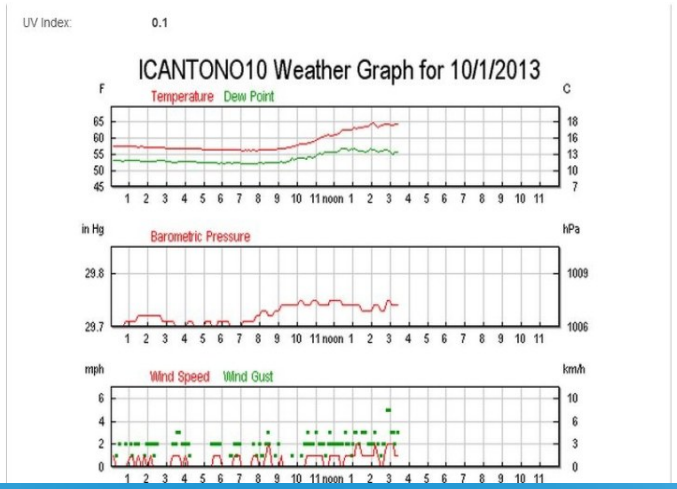
Wunderground Apps

aprs.fi

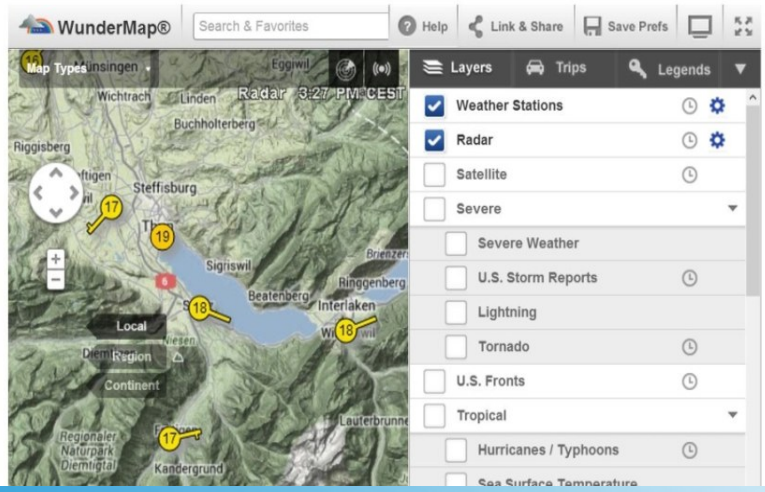
Wunderground Spiez - Actual



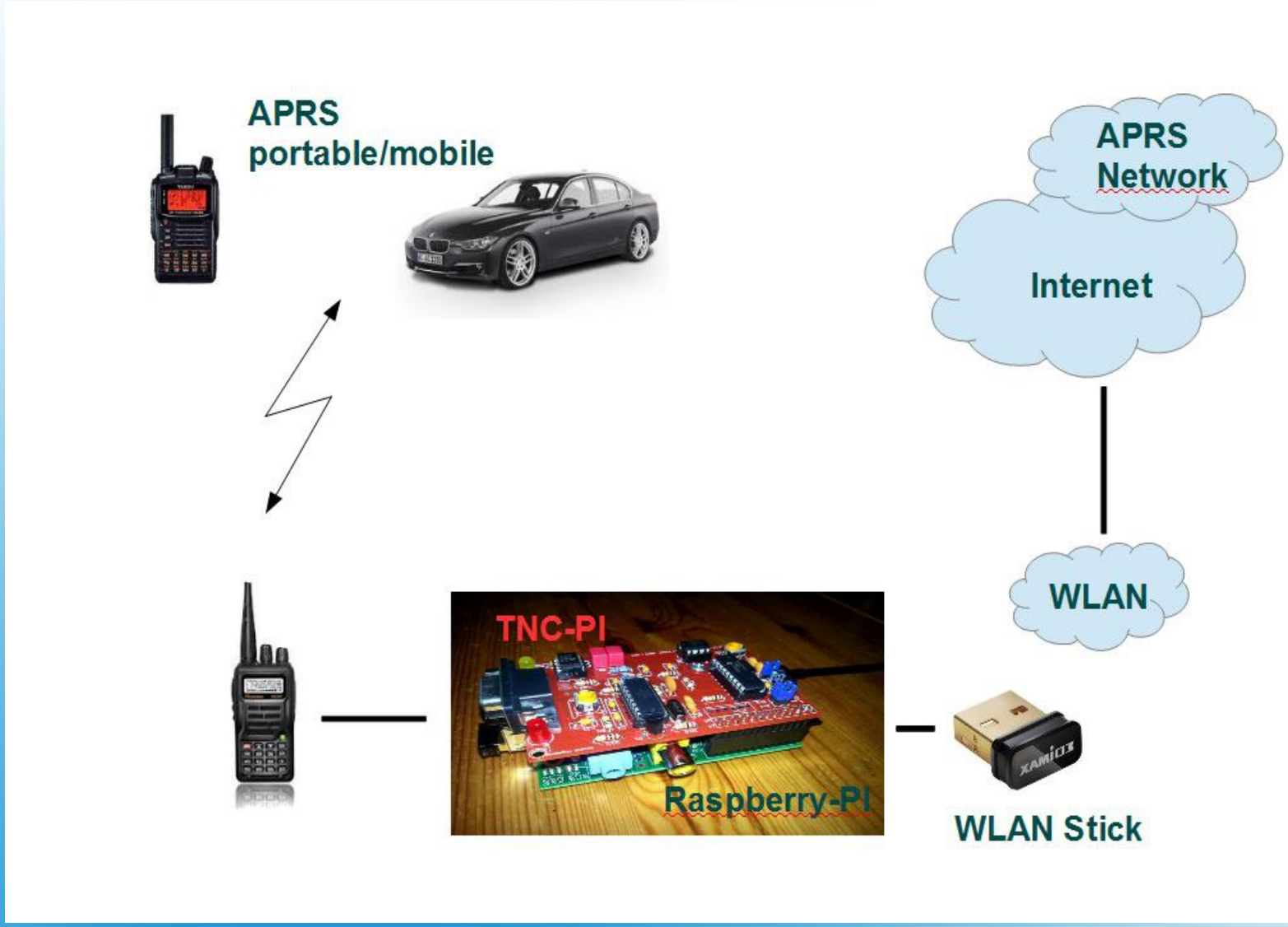
Wunderground Spiez - Year 2013



WunderMap - Actual



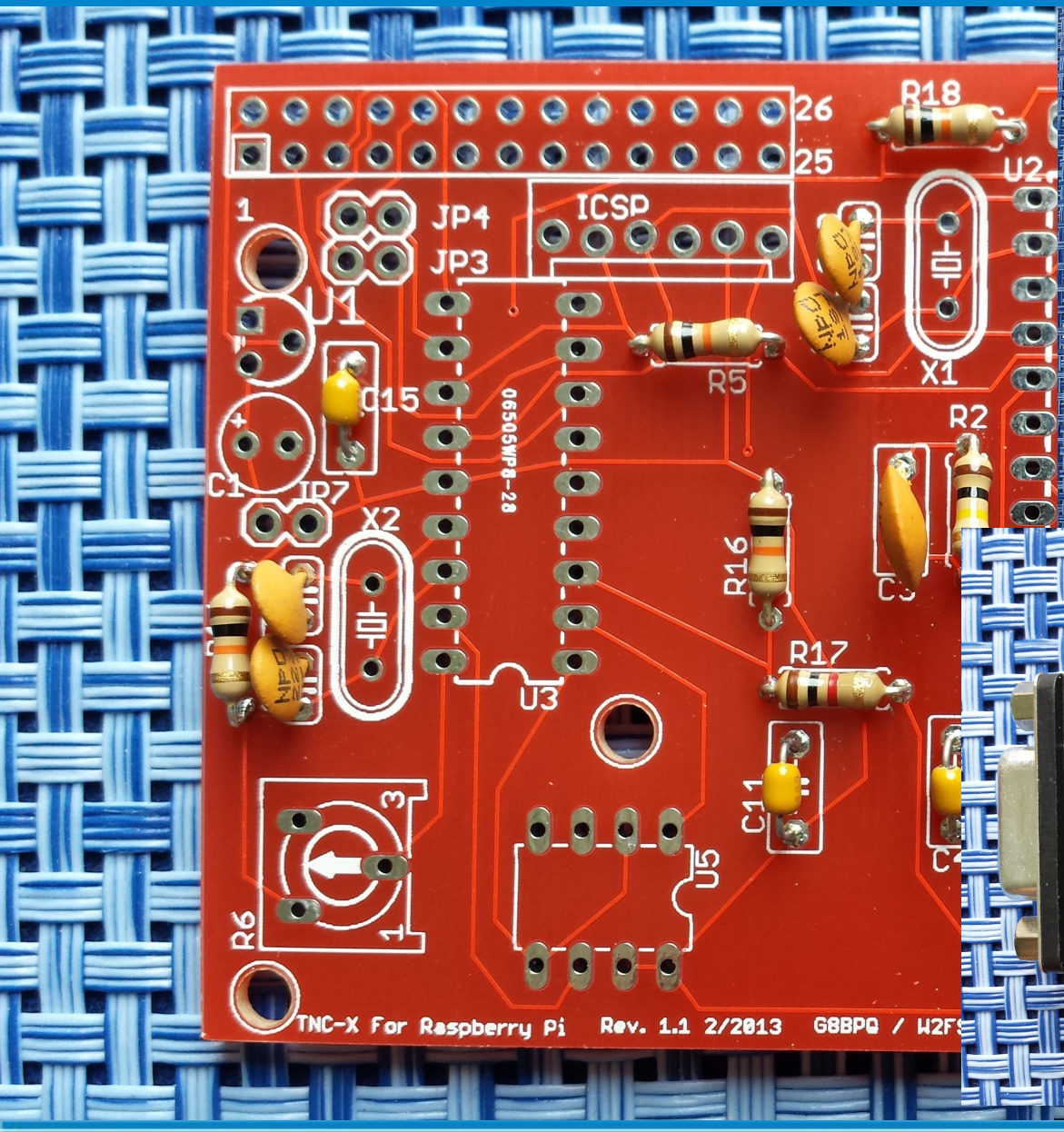
Demo Weather Station

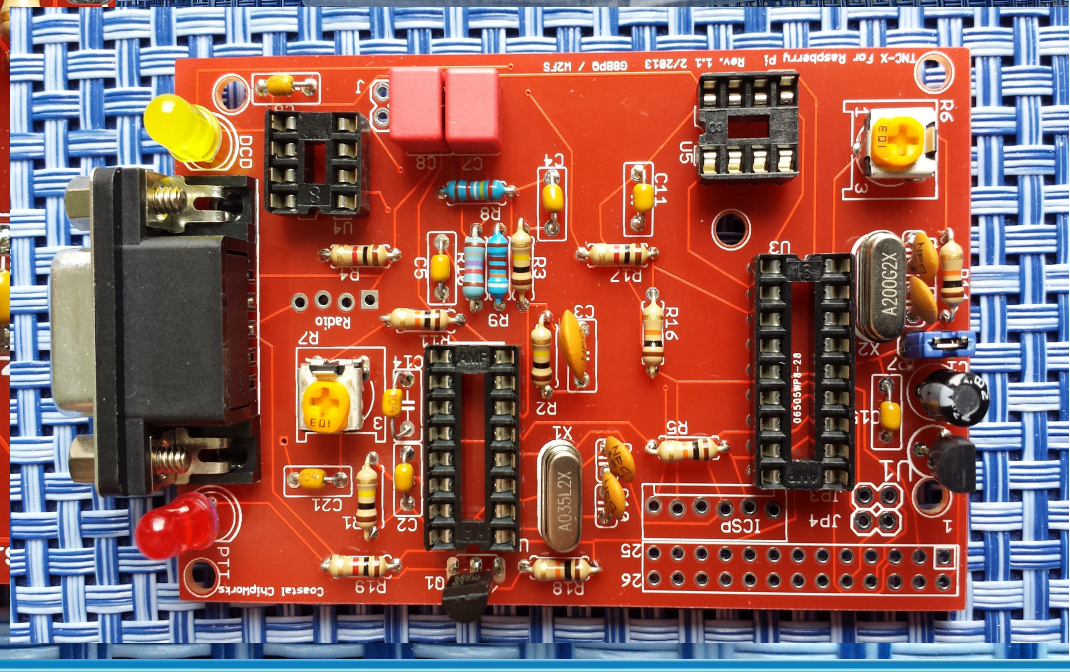


IGate DixPRS on Raspberry Pi

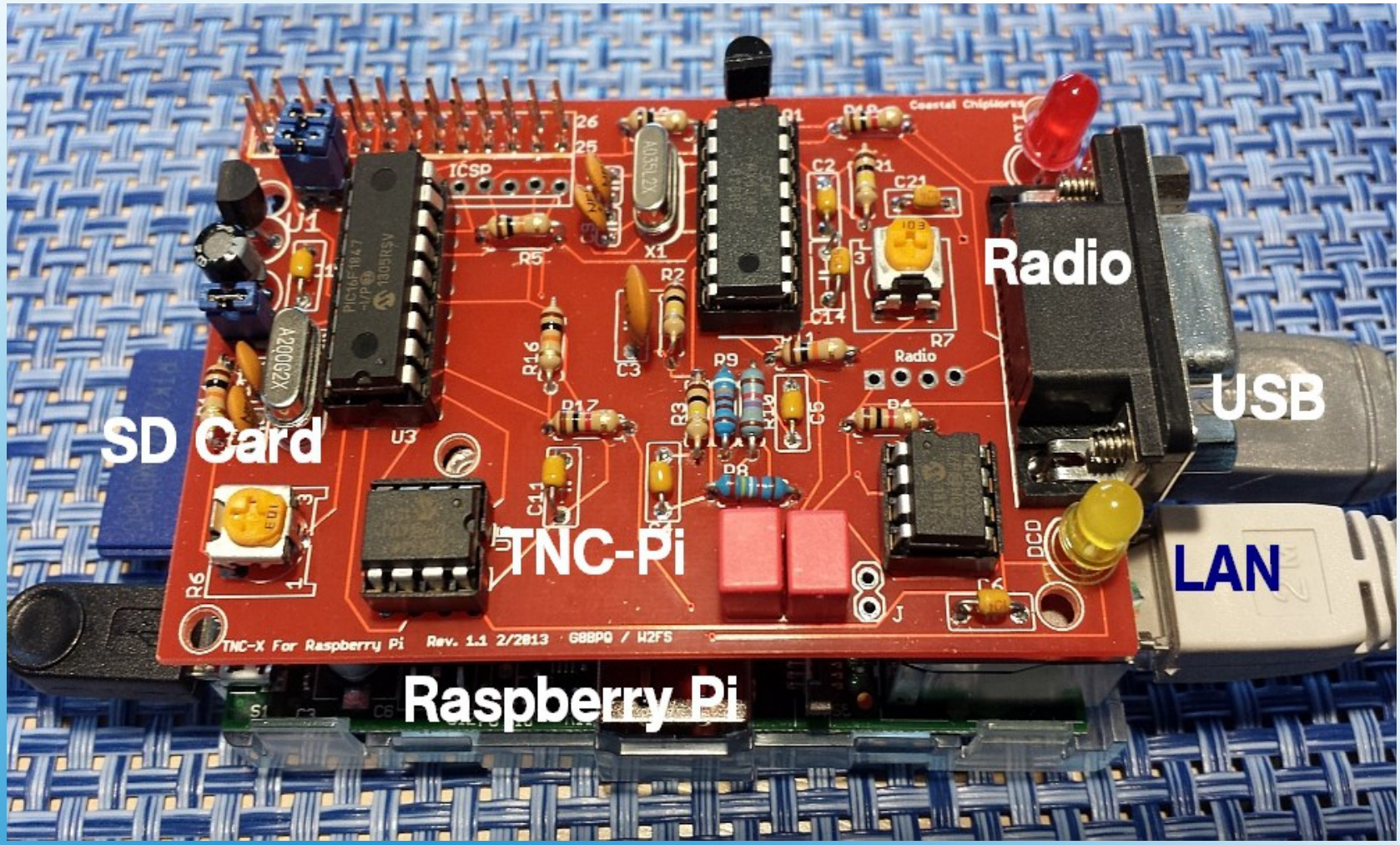
wouxun
KG-818
Two-way Radio
SOS
Distant Emergency Alarm, SOS Function
CMIIT ID:2010FP3315
CTCSS
DCS
SCAN
RoHS
SanDisk
Ultra
8GB

Material

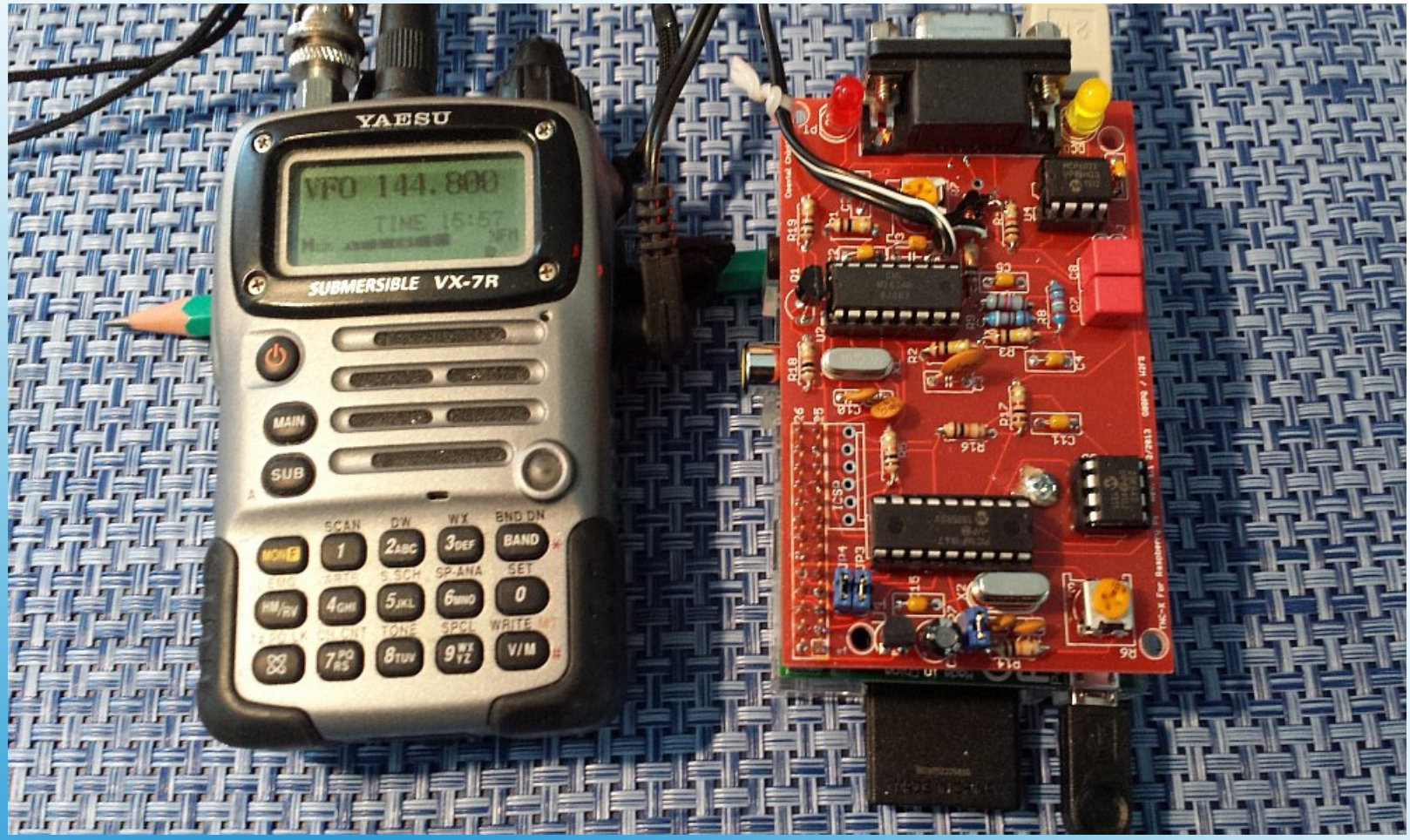




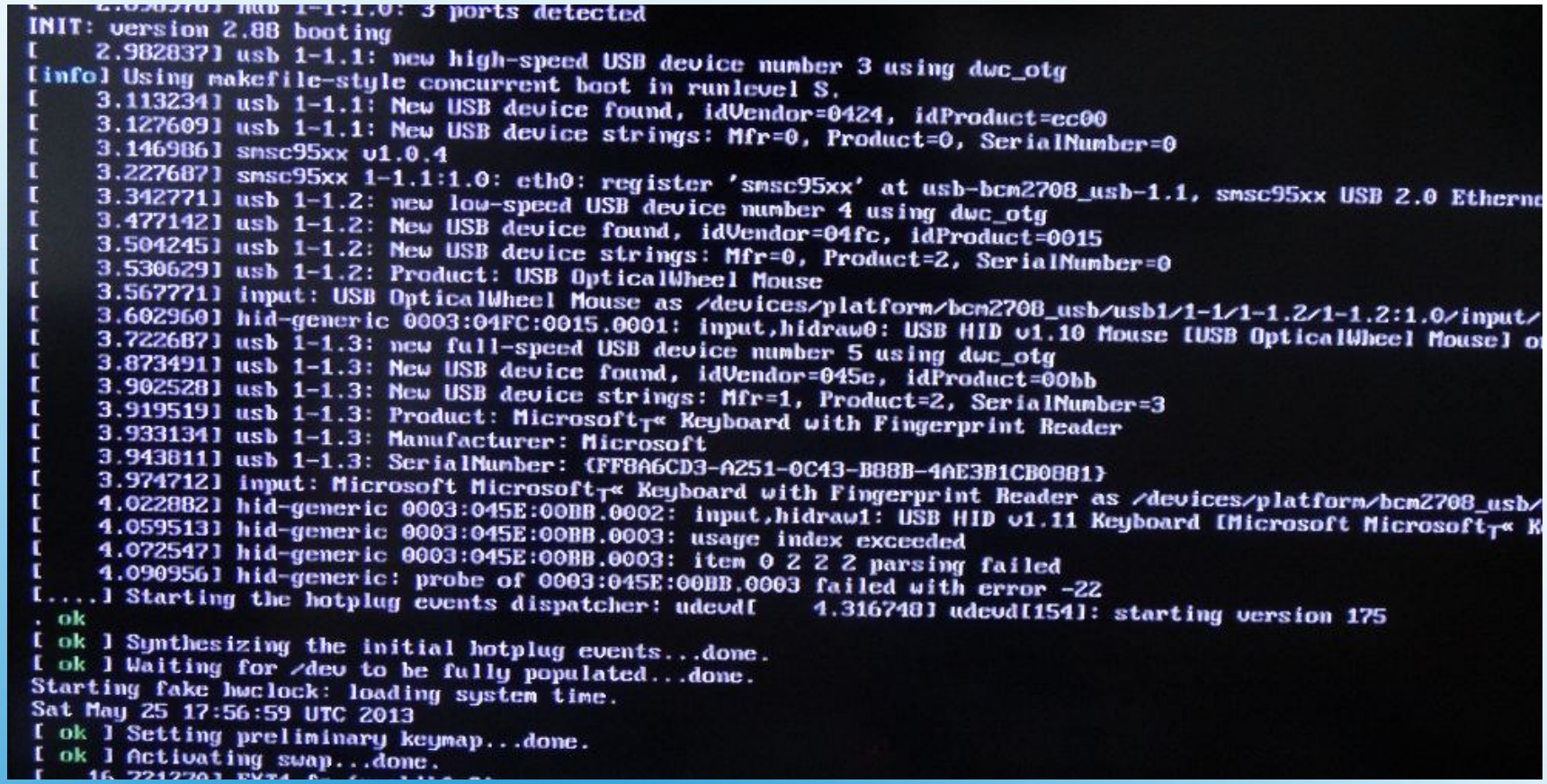
TNC-Pi Assembly


SD Card
TNC-Pi
Radio
USB
LAN
Raspberry Pi
TNC-X For Raspberry Pi Rev. 1.1 2/2013 G8BPQ / W2FS

TNC-Pi



IGate DixPRS on Raspberry Pi



Configuration

- Step 1: Initial setup with keyboard and mouse
- Step 2: Use Putty for configuration steps 3 ...
- Step 3: Update Raspberry Pi to the latest status
- Step 4: Install the ax25 wrapper
- Step 5: Installing the APRS software "dixprs"
- Step 6: Starting the dixprs
- Step 7: Configure dixprs
- Step 8: Install WLAN-Stick
- Step 9: Connect the radio

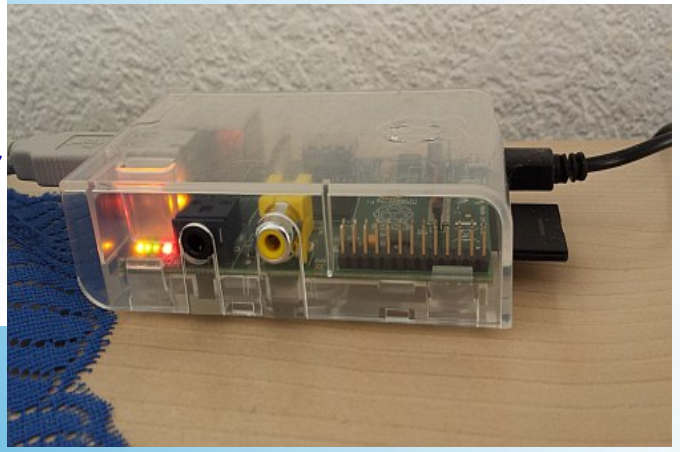
Configuration Steps

Demo APRS IGate

host.dyndns.org

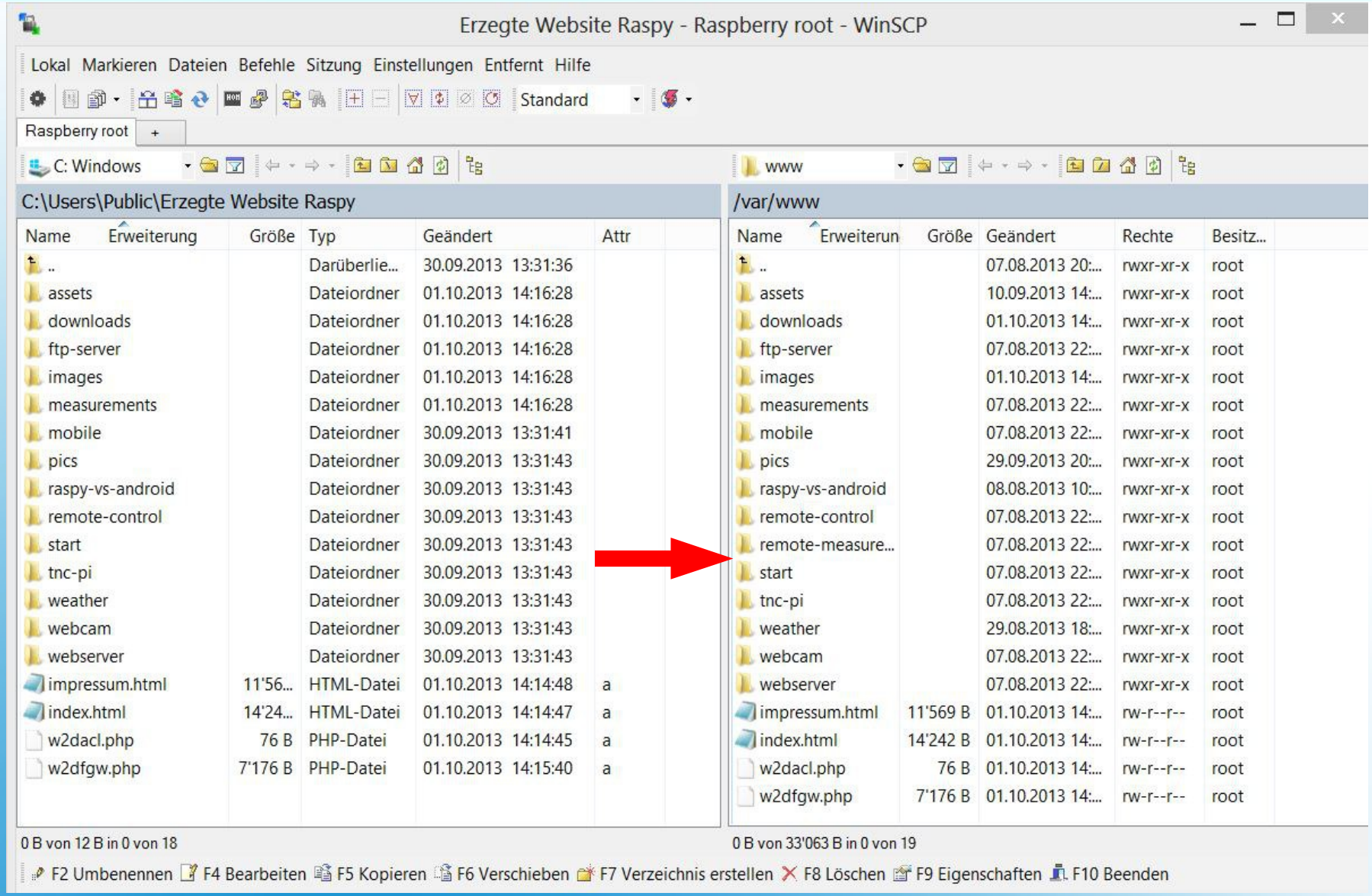
Dynamic
Domain Name System

Router or
Client-Software



Home Webserver

Home Webserver



Upload Website

Start | APRS | APRS Special | Weather | Webserver | Webcam | FTP Server | Remote | Power | Pics

You are here: **Start** » **Webserver**

APACHE Home Webserver

Pre-requisites:
Static IP address or DynDNS server, SSH Access (Pi);
The ability to host and serve webpages as a web server, and the software we're going to install is called Apache. Our web server will sit on your local network and be a

hb9czv.dyndns.org

APT-GET

Apt-get is another command you're going to be seeing a lot of. We use it to install applications on our Pi. You can think of it like an App Store, except you have to know the name of the app you want to download first, rather than browse through a list. Don't worry though, in this tutorial you'll be shown exactly what it is you need to download and why we're downloading it.

Select Language

Powered by Google **Translate**

Objective(s):
Understand the concept of a web server for the berry Pi APRS

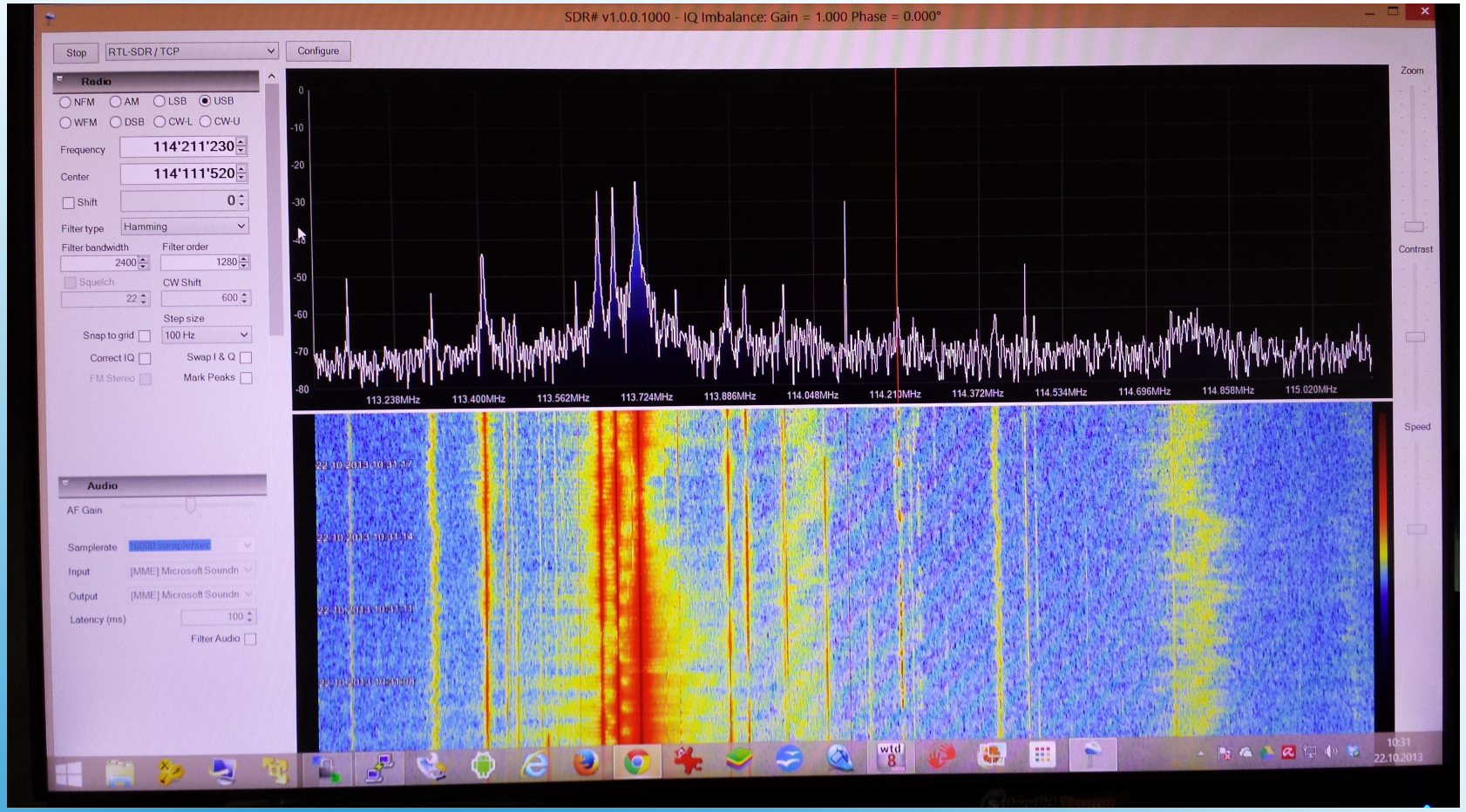
it is possible to remotely access the Raspberry Pi which can be done via SSH, FTP, and also you can run a

Demo Home Webserver

- **USB Webcam**
- **USB Powered Hub** (e.g. Logitec Quickcam Pro 9000)
- **Remote Access: host.dyndns.org:8081**
- **Port Forwarding to Port 80**
- **Application: Motion**
- **2 Frames/sec**
- **640x480 pxls**

Webcam on Raspberry Pi

Webcam Demo


SDR# v1.0.0.1000 - IQ Imbalance: Gain = 1.000 Phase = 0.000°
Stop
RTL-SDR / TCP
Configure
Radio
NFM AM LSB USB
WFM DSB CW-L CW-U
Frequency 114'211'230
Center 114'111'520
Shift 0
Filter type Hamming
Filter bandwidth 2400
Filter order 1280
Squelch 22
CW Shift 600
Step size
Snap to grid 100 Hz
Correct IQ
Swap I & Q
FM Stereo
Mark Peaks
Audio
AF Gain
Samplerate 16000 sample/sec
Input [MME] Microsoft Soundn
Output [MME] Microsoft Soundn
Latency (ms) 100
Filter Audio
0 -10 -20 -30 -40 -50 -60 -70 -80
113.238MHz 113.400MHz 113.562MHz 113.724MHz 113.886MHz 114.048MHz 114.210MHz 114.372MHz 114.534MHz 114.696MHz 114.858MHz 115.020MHz
Zoom
Contrast
Speed
10:31
22.10.2013

SDR Server

Discussion / Questions