

Morgon/dagens Radioteknik

Lite gott & blandad inspiration...

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SM0JZT

SSA sektion Radioteknik

Gävle - Sept 2018



Reflektioner

- Mina favoritämnen:
SDR, QRP och egenbygge
- Hur kan vi använda moderna SDRadios på ett effektivt sätt
Kombinera egenbygge med SDR ?
- Vilka SDRadios finns, vad kan vi se i spåkulan?
- SDRadio på distans. Klubbprojekt !!







Morgondagens radiorum ?



DMR-radio
MD390-GPS
Tytera

Openspot
RFshark

SunSDR2 / QRP
EXPERT Electronics

ANAN-10
Apach-Lab

RSP2
SDRPLAY



The Innovative HF Transceiver IC-7300 is Born

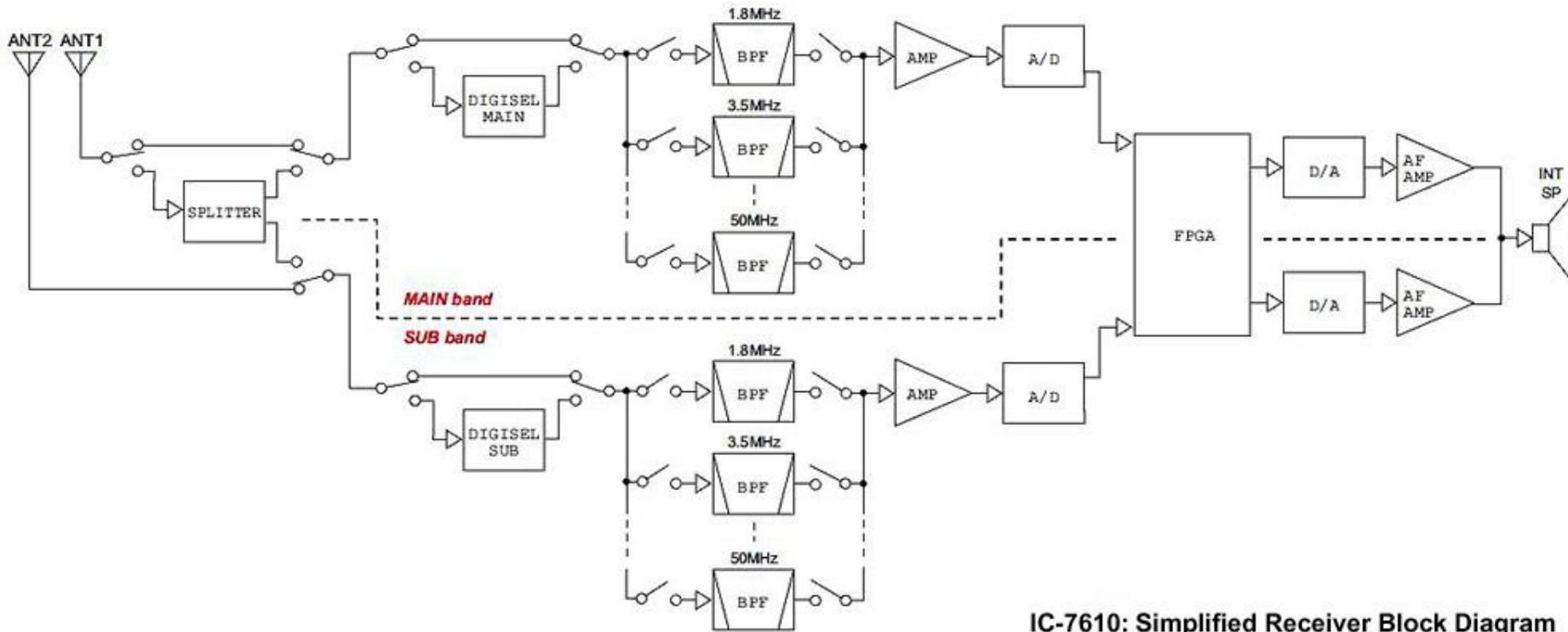


ICOM – IC-7610



Dubbla mottagare (helt separat)
Extern skärm....
Ethernet / TCP/IP-snit
Ca 40 kKr

ICOM – IC-7610



IC-7610: Simplified Receiver Block Diagram

Dubbla mottagare (helt separat)
Extern skärm....
Ethernet / TCP/IP-snit
Ca 40 kKr

“Egenbygge”/QRP

Life is lovely with QRP.....

Elecraft KX3/PX3 - SDRRadio



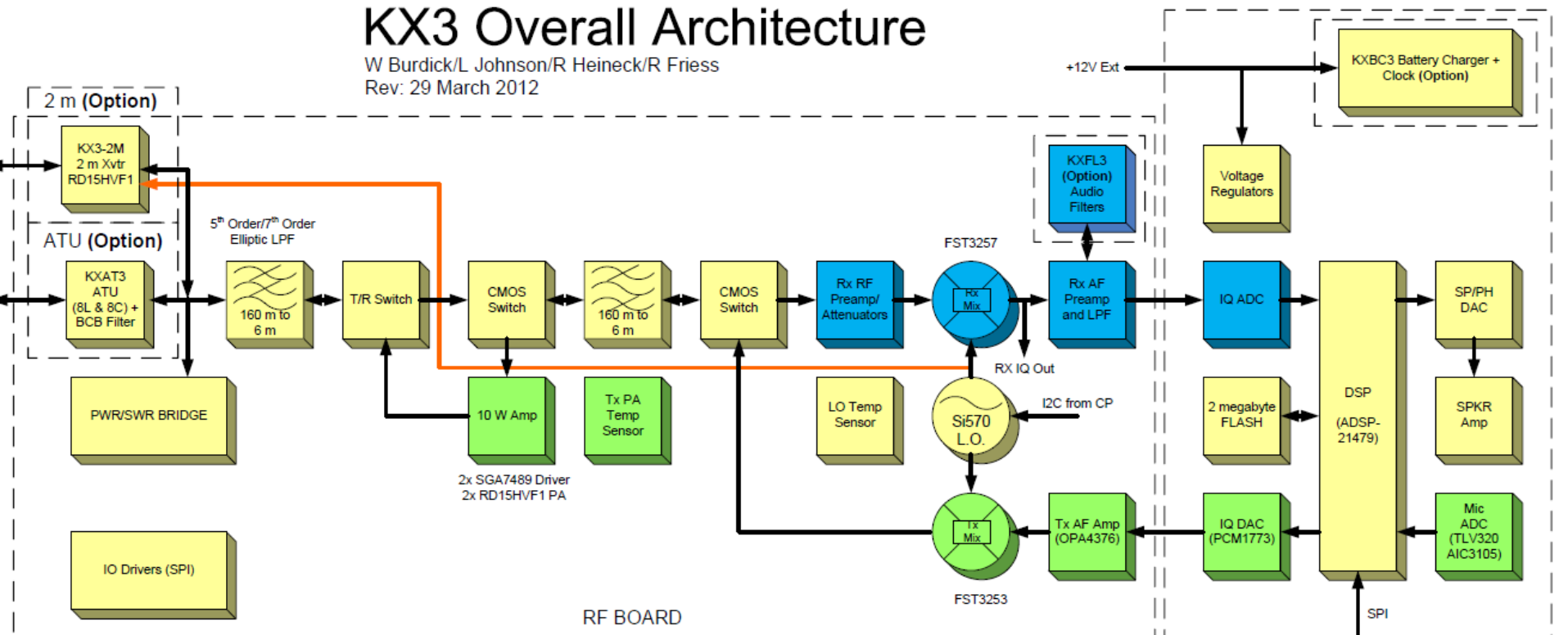
- SDR-radio med traditionellt gränssnitt
- FST3253 switch
- USD 950 (KX3) + 500 (PX3) byggsats
- NaP3 -programvara för styrning
- I/Q, RS232

Elecraft KX3

schema

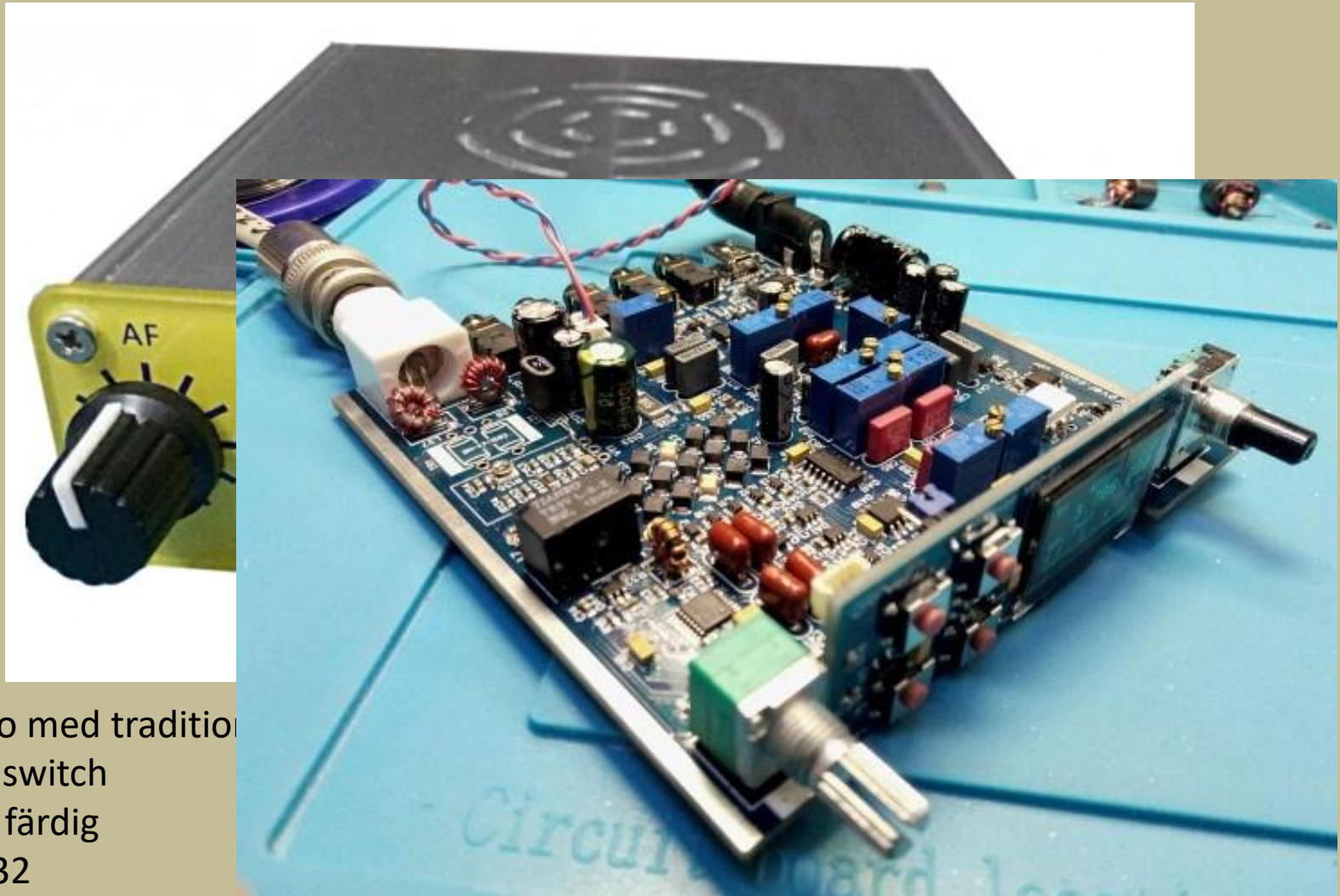
KX3 Overall Architecture

W Burdick/L Johnson/R Heineck/R Friess
Rev: 29 March 2012



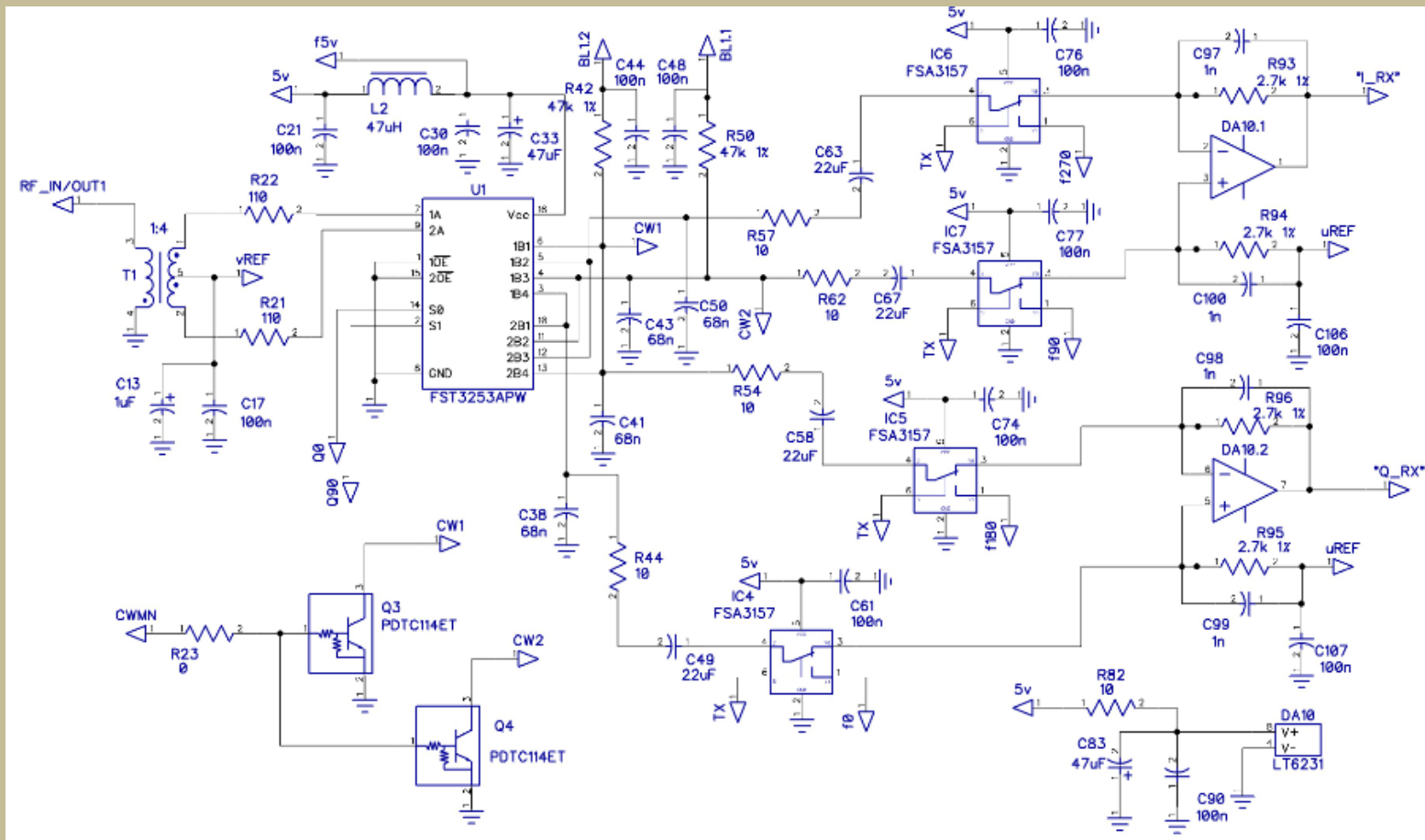
QRPver Minion

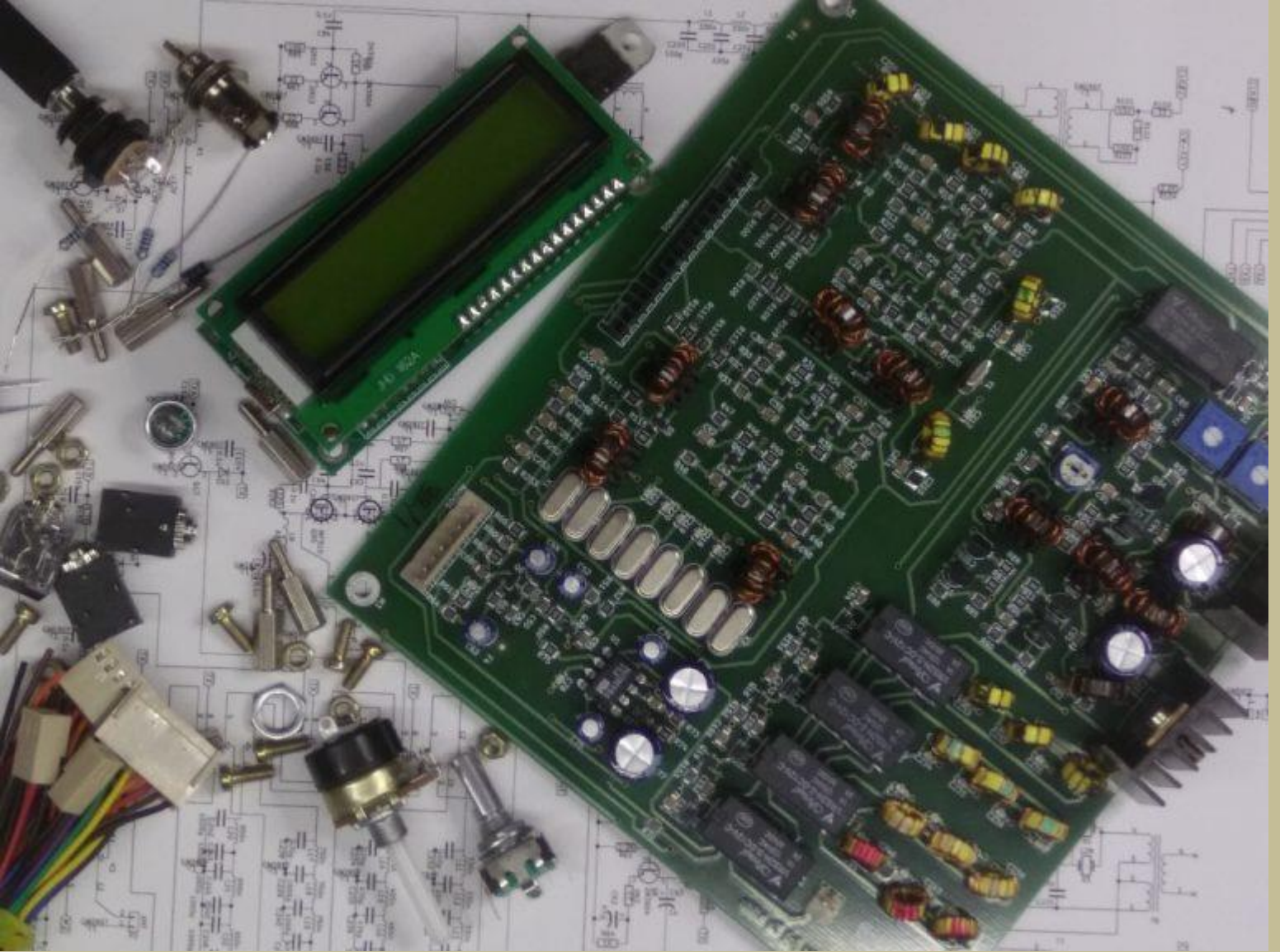
“modern QRP-rigg” (QTC 7-8 2018)

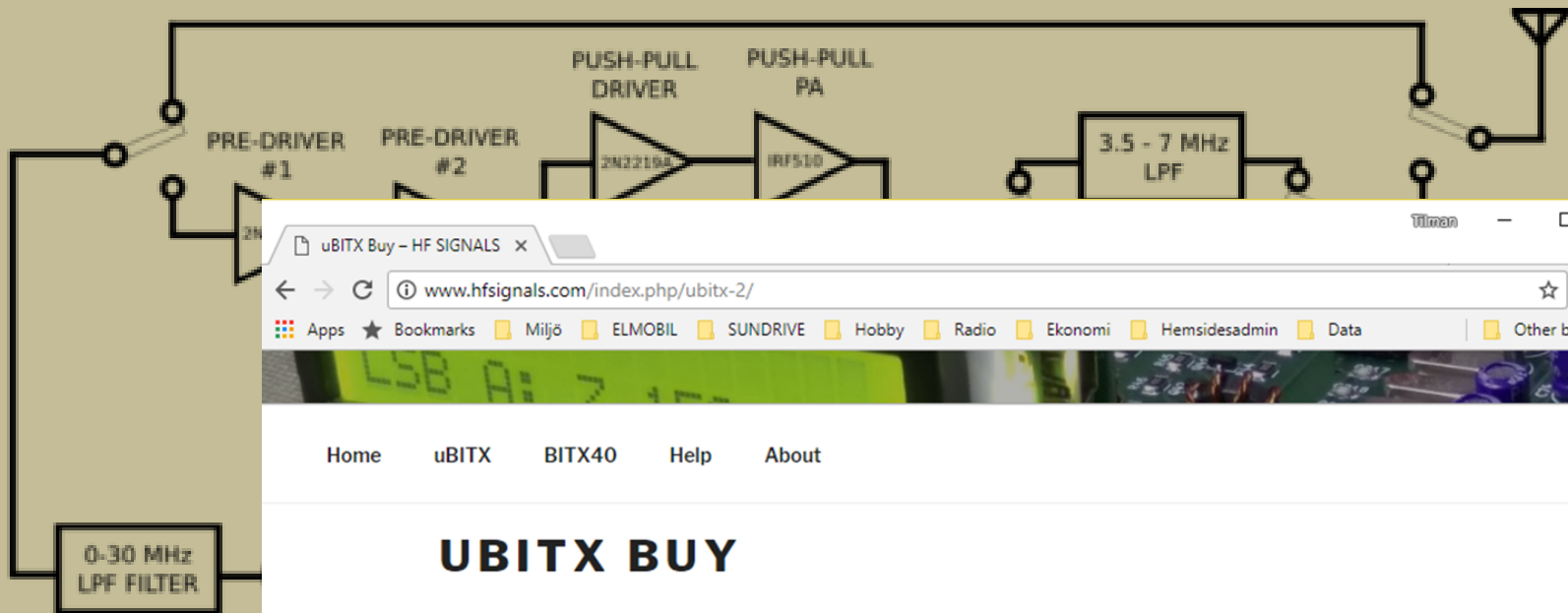


- SDR-radio med traditionell
- FST3253 switch
- USD 350 färdig
- I/Q, RS232
- 100 x 103 x 30 mm

QRPver Minion schema







uBITX Buy - HF SIGNALS x

www.hfsignals.com/index.php/ubitx-2/

Apps ★ Bookmarks Miljö ELMOBIL SUNDRIVE Hobby Radio Ekonomi Hemsidesadmin Data Other bookmarks

Home uBITX BITX40 Help About

UBITX BUY

Preorder μ BITX with Raduino for \$109 with free shipping (\$10 extra for DHL Shipping)

Shipping will start after December 25th.

Choose USD \$109 for (India Post, 3-4 weeks)/ USD \$119 (DHL 1 week)

DHL (1 week) with full tracking \$119.00 USD

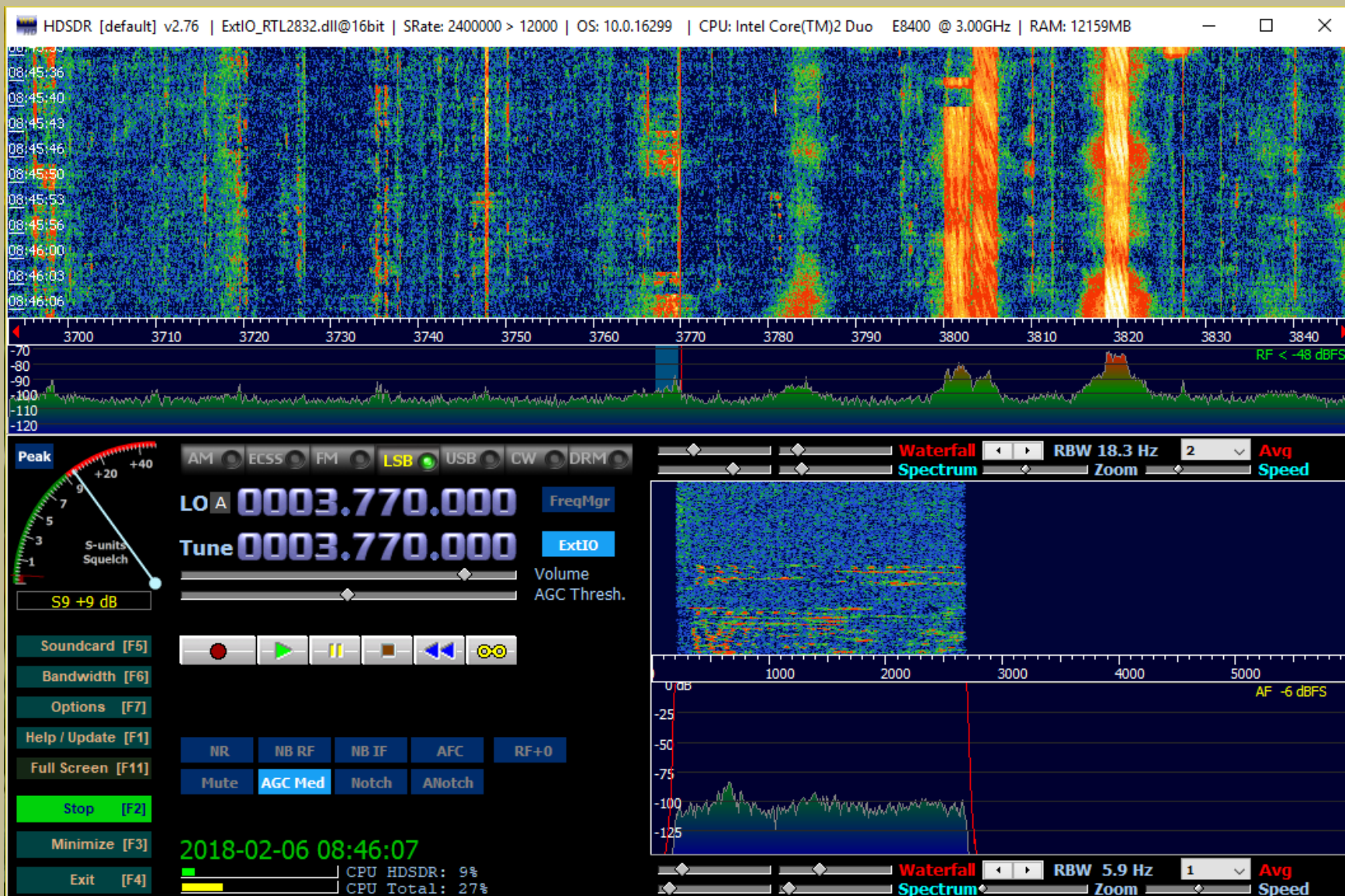
Add to Cart

Buy uBITX with DHL Shipping for \$119 (an extra \$10). They will deliver it to you within 7 working days, anywhere in the world. Many European builders who ordered DHL delivery were slapped with a custom duty. **The DHL option is not recommended for European builders**, unless you are sure of the custom duty impact.

I en HAMMOND 1455 T1601



Spektrumvisning och kontroll för 100.-



SDR för distanstrafik RX

Lite inspiration
Klubbprojekt ??

WEBSDR

HF WebSDR on SK4KO

Not secure | websdr.sk4ko.com:8901

Radio-Club SK4KO - 7S4YL

SILJANBYGDENS SÄNDAREAMATÖRER

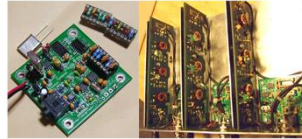
HF WebSDR

WebSDR de SK4KO

WebSDR receiver located in Mora, Sweden.
More information about SK4KO can be found on <http://www.sk4ko.com>
It is operated by SM4JLX, e-mail sm4jlx@sasa.se

The receivers is 5 x Soft66lite and band-pass filter. <http://zao.jp/radio/66lite/>.
Antenna, 80m loop for 80m, 40m and 20m.
New bands, 80m and 20m CW. New QTH not really clear yet.

More information about the WebSDR project can be found on <http://www.websdr.org>.
More information SK4KO WebSDR is available [here](#).



No sound?
Google Chrome has added restrictions in the autoplay policy for sound. The workaround for now is to change policy in your browser. In the address-bar, type `chrome://flags/#autoplay-policy`. Set this flag to "no user-gesture is required". Please note that this affects all webpages!

Your contributions are welcome to help us fund the operation of the receiver!

Donate

VISA M.C. AMEX

Settings: Waterfall: Java HTML5 Sound: Java HTML5

View:

- all bands
- others slow
- one band
- blind

Please log in by typing your name or callsign here 8 characters (it will be saved for later visits in a cookie):

This WebSDR is currently being used by 16 user(s) simultaneously.

-85.7 dB, peak: -80.2 dB

3603.06

Band: 80m_cw 80m 40m 20m

CW CW-N LSB LSB-N USB USB-N AM AM-N

Wide-band WebSDR

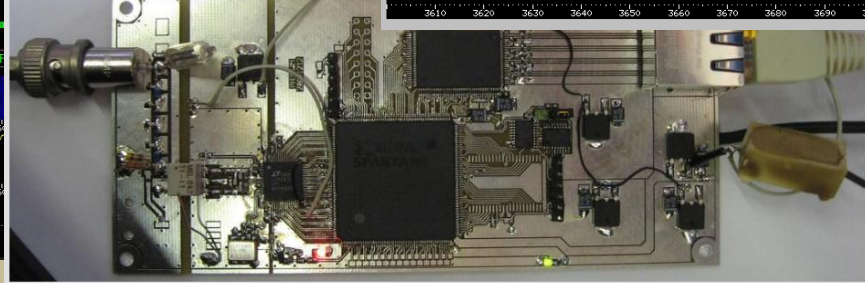
Not secure | websdr.ewi.utwente.nl:8901

Amateur radio club ETGD PI4THT

Wide-band

On this page you can listen to and control a short-wave receiver

This site, which in 2008 was the very first WebSDR site ever, was



Other services available on this system:

WSPR reception Chirp signal reception Entire day waterfall display

Questions and remarks about this WebSDR can be sent to the developer and maintainer: pa3fvm@websdr.org (but please check the [FAQ](#) first).

Please log in by typing your name or callsign here (it will be saved for later visits in a cookie):

View: waterfall blind Allow keyboard:

View: all bands others slow one band blind Allow keyboard:

Frequency: 7137.88 kHz

Band: 160m 80m 60m 40m 20m 17m

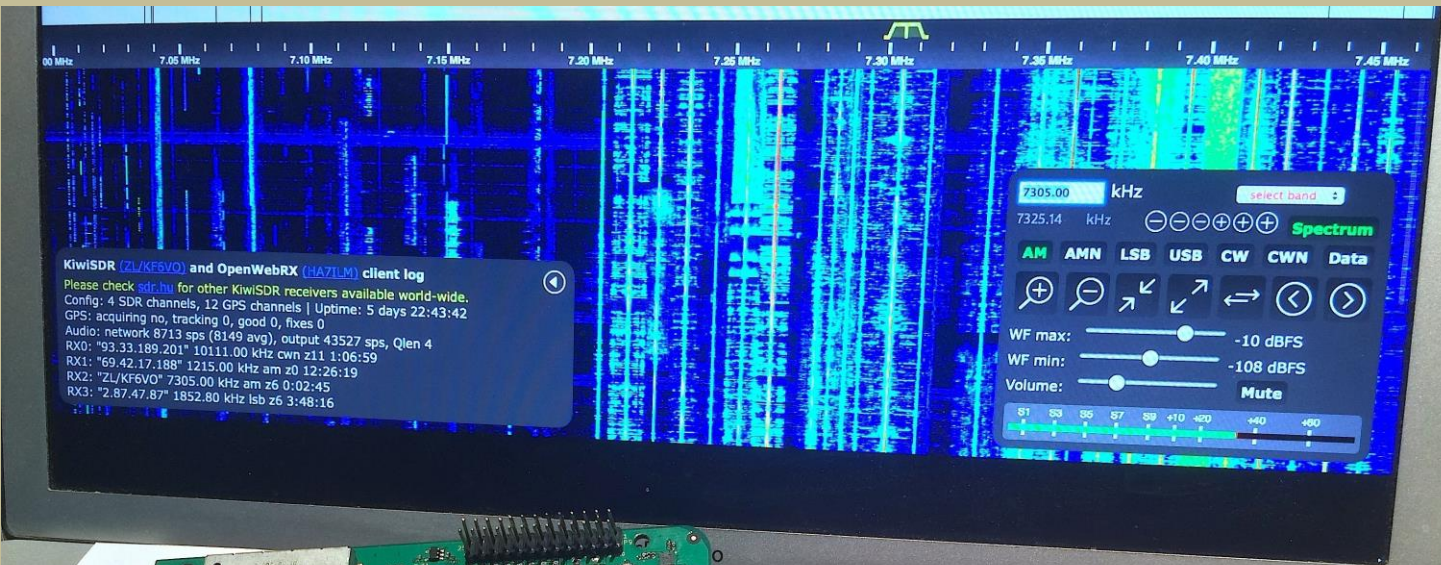
I.F. Bandwidth: 2.49 kHz @ -6dB; 2.95 kHz @ -60dB.

Waterfall view: zoom out zoom in max out max in

I.F. PassBand: Shift Down Shift Up Lower Edge - Lower Edge + Upper Edge - Upper Edge +

This WebSDR is currently being used by 57 user(s) simultaneously: compact view

10 cm large.



KiwiSDR (ZL/KF6VO) and OpenWebRX (HA7LM) client log
Please check sdr.hu for other KiwiSDR receivers available world-wide.
Config: 4 SDR channels, 12 GPS channels | Uptime: 5 days 22:43:42
GPS: acquiring no, tracking 0, good 0, fixes 0
Audio: network 8713 sps (8149 avg), output 43527 sps, Qlen 4
RX0: "93.33.189.201" 10111.00 kHz cwn z11 1:06:59
RX1: "69.42.17.188" 1215.00 kHz am z0 12:26:19
RX2: "ZL/KF6VO" 7305.00 kHz am z6 0:02:45
RX3: "2.87.47.87" 1852.80 kHz lsb z6 3:48:16



© bluebison.net



ValentFX
ELECTRONICS INNOVATION

KiwiSDR for BeagleBone

- Websnitt för användare - Max 4 samtidiga
- Kortvåg
- Stöd för WSPR och andra tjänster
- EUR 330

CATSYNC

CATSync Web SDR Control V1.11

OmniRig CAT Control

RX VFO 7,162.50 TX VFO 7,162.50 Mode LSB Status On-line

● RIG1 ○ RIG2 Settings Sync

Web SDR Control

URL: Load SDR Site

WebSDR detected

Options

Synchronize TX VFO

Mute Audio on TX

Click + Tune

WSPR reception

Chirp signal reception

Entire day waterfall display

Questions and remarks about this WebSDR can be sent to the developer and maintainer: pa3fvm@websdr.org (but please check the [FAQ](#) first).

Please log in by typing your name or callsign here (it will be saved for later visits in a cookie):

View: waterfall blind Allow keyboard:

7100 7150 7200 7250 7300 7350 7400 7450 7500

40m amateur

SOM R ERI Voice of Bro ERI Voice C C G/O M C C A T J K C H C H C C H C H I F C C C H N C H N C I F G T C H N C C U S T H A C H C I R N U S G C H T G / S N G U S A / T H A S I A R M I B R A R a d i o

7162.5 kHz A/B A=B

--- -- - + ++ +++

CW LSB USB AM FM AMsync

Volume: mute

Filter: 2.40 kHz narrower wider

squelch autonotch noise reduction

Audio recording start

Waterfall zoom

- +

band

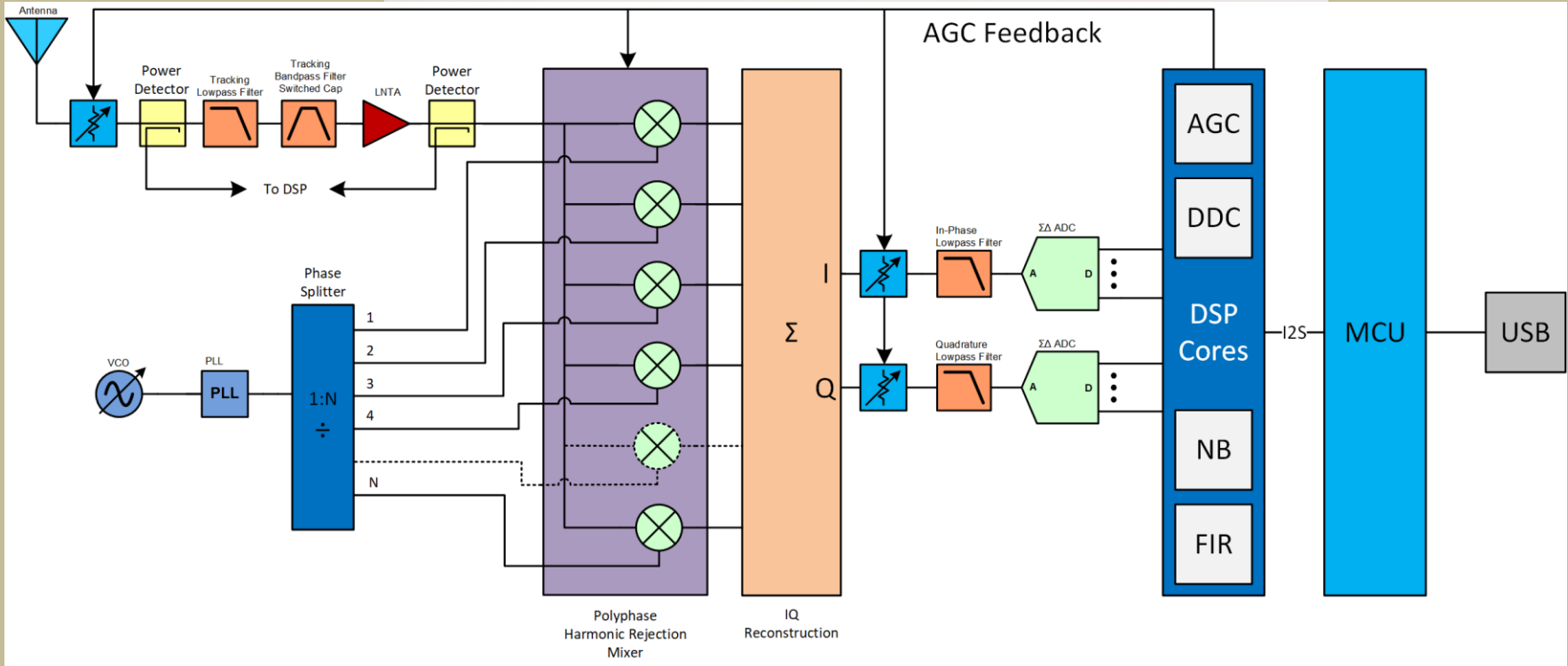
>< <>

\$1 \$3 \$5 \$7 \$9 +2.0dB +4.0dB +6.0dB

-77.5 dBm, peak -76.6 dBm

KiwiSDR / WebSDR – synkroniserat med stationär radio via CAT

AirSPY HF+



Spec:

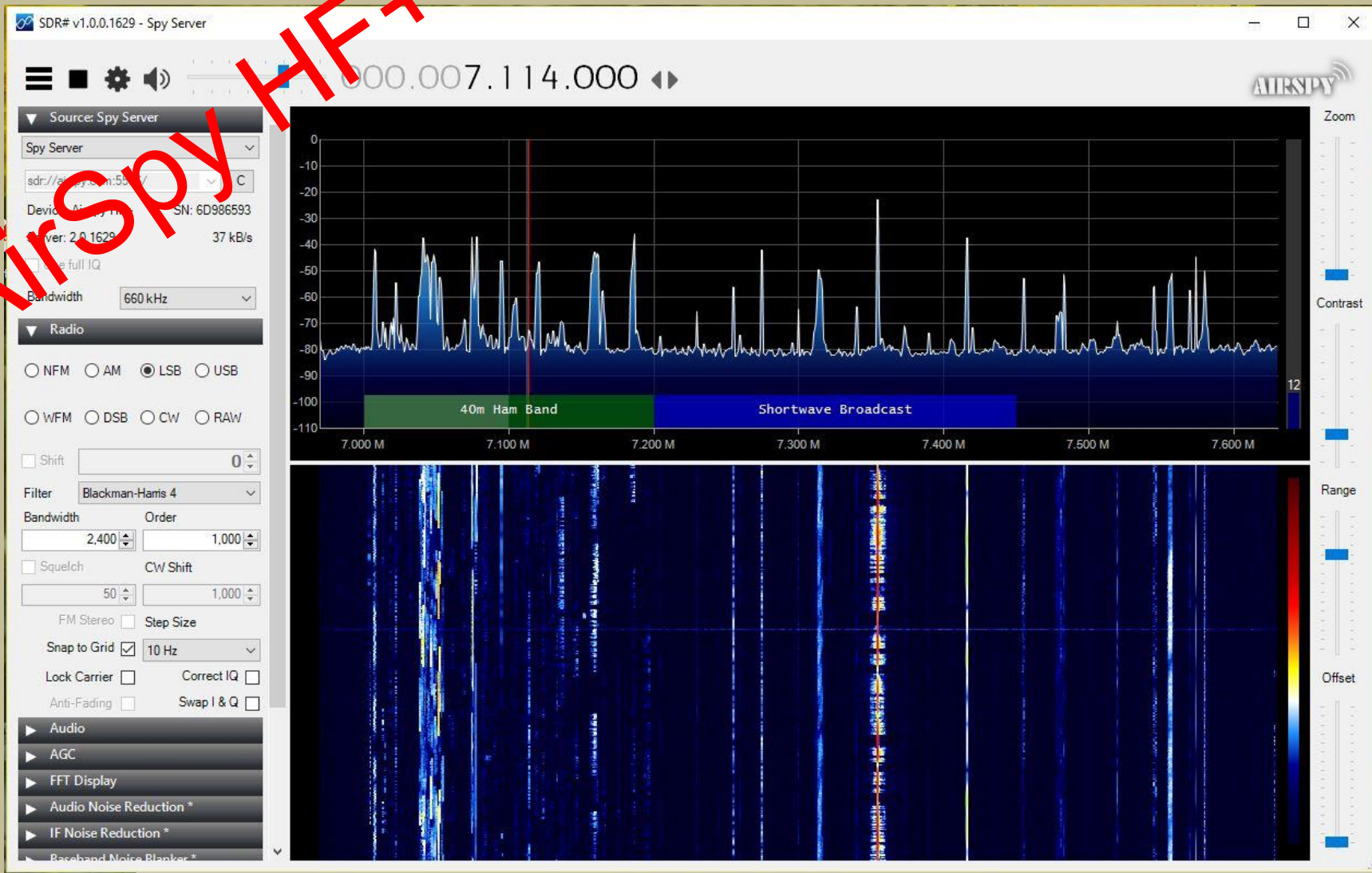
HF coverage between 9 kHz .. 31 MHz

VHF coverage between 60 .. 260 MHz

www.itead.cc

USD 199

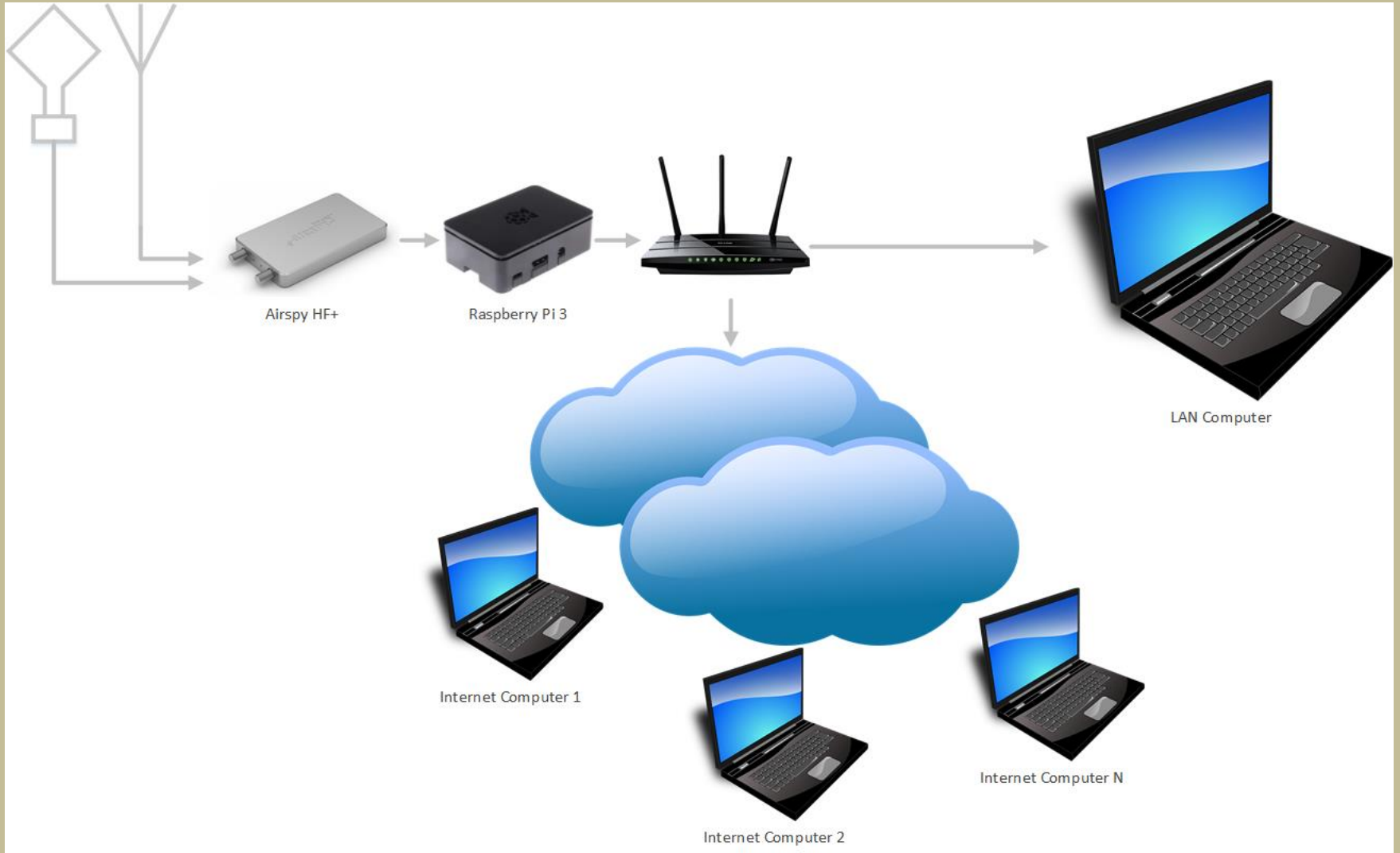
airspy.com/airspy-hf-plus



- Klientprogramvara (SDR#) för användare - Flera hundra användare
- Kortvåg / VHF
- I/Q över nätet (ca 40 kbit/s per användare)

AirSPY HF+

remote



SDR för distanstrafik

TRX

FlexRadio

SmartSDR / Maestro



- RadioServer / All-In-One
- SmartSDR SW ver 2.3.9 (ex PowerSDR)
- Lokalt eller remote via SmartLink
 - Login för remote

SmartSDR



Name: Mark Holbrook
Callsign: WS7M



SmartLink FLEX-6600
1118-9248-6600-5062 WS7M
Available

FlexRadio

Remote / SmartLink

The screenshot displays the FlexRadio software interface with two active frequency monitors and a control panel on the right.

Top Monitor: Frequency 7.272.000, SPLIT TX A, +16dB WIDE. The waterfall display shows a signal with a peak at approximately 7.280 MHz. The control panel includes buttons for +RX, +TNF, Band, ANT, Display, and DAX. The status bar shows ANT1 ANT1 2.7K, NB NR ANF OSK, and S5.

Bottom Monitor: Frequency 14.257.000, SPLIT TX B, +16dB WIDE. The waterfall display shows a signal with a peak at approximately 14.260 MHz. The control panel includes buttons for +RX, +TNF, Band, ANT, Display, and DAX. The status bar shows ANT1 ANT1 2.7K, NB NR ANF OSK, and S5.

Right Panel (PC Audio): Includes controls for RF Power (0-120), Tune Pwr, CW, TUNE, MOX, ATU, MEM, SSB-Audix-4100, BAL, PROC, MON, and a frequency filter section with Hz (63, 125, 250, 500, 1k, 2k, 4k, 8k) and gain (+10dB to -10dB) settings.

Bottom Status Bar: Shows SmartLink, TX Ready, and the date/time 09-24-18 18:34:20Z.

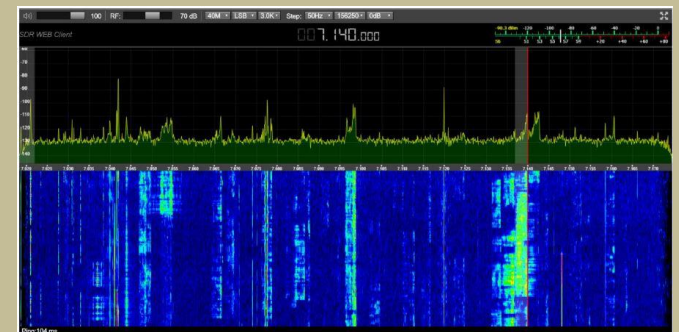
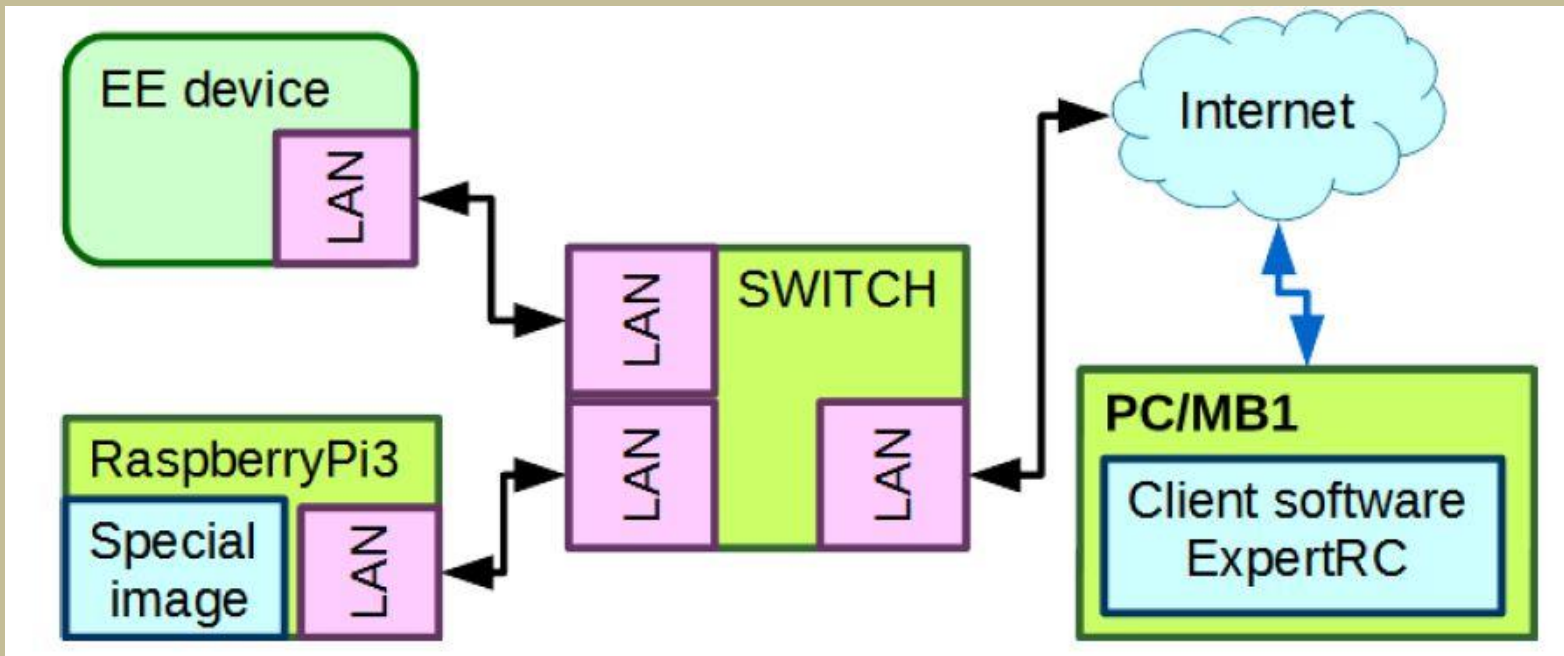
EXPERT Electronics

Remote Control





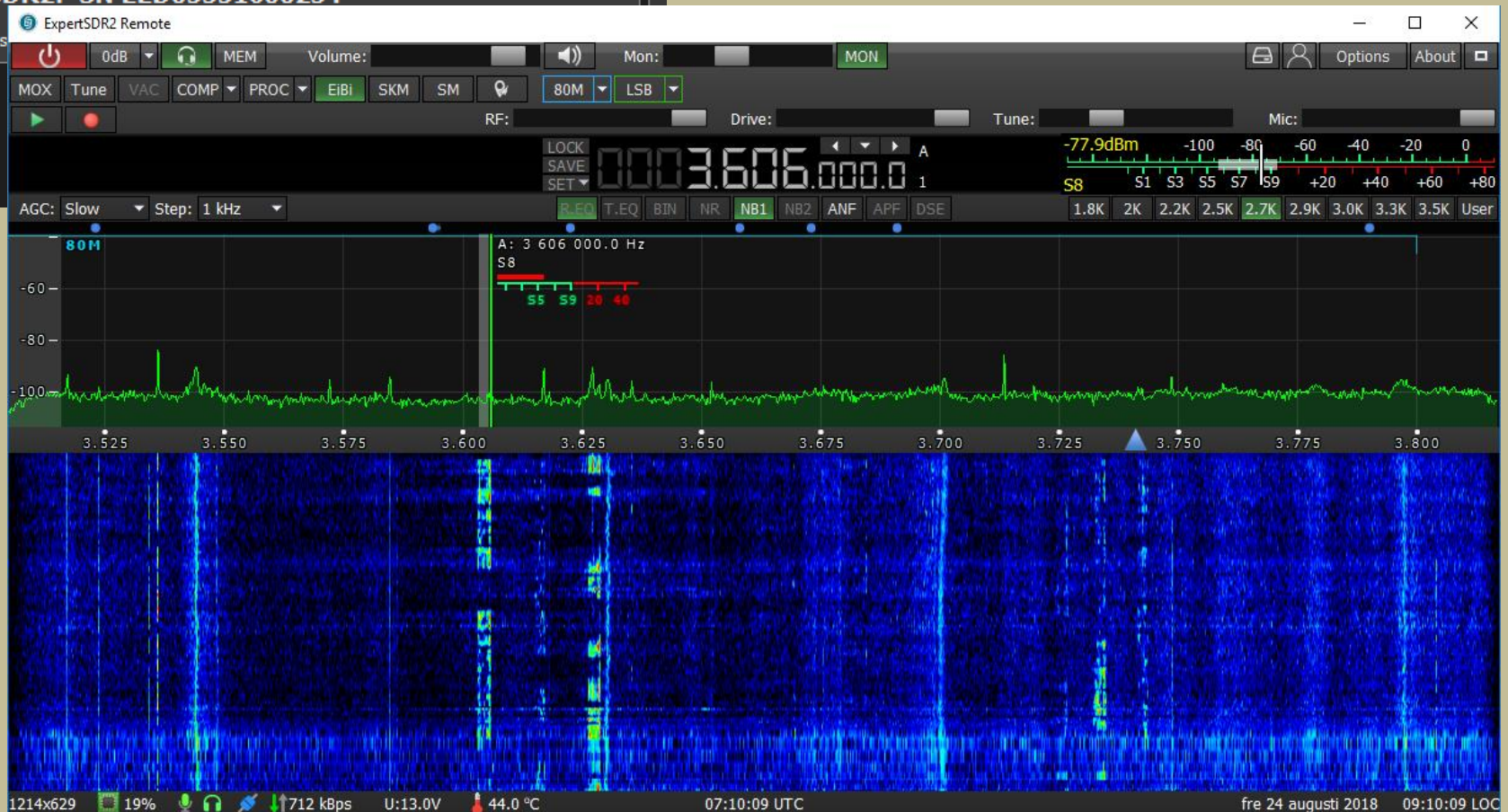
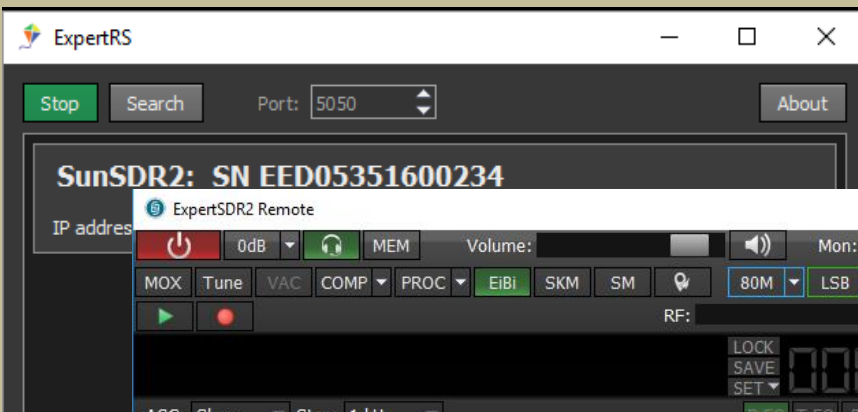
- En användare RX/TX
- Resurssnål på nätet (600 Kbit/s)
- Inlogg / Säkerhet ?
- CW ?



EXPERT Electronics

ExpertRC – ~~Raspberry~~ / Win PC

- Alfa version
- RX och TX
- Endast Win Server
- Ingen loginsäkerhet



Tack / Summering

- Digital radio – Mycket radio för pengarna
- SDR
- Spektrumvisning
- Klubbprojekt
 - externa brukare, antennbegränsningar, experiment

Länkar

- <http://kiwisdr.com>
- <http://sdr.hu/?q=kiwisdr>
- kiwisdr.sk3w.se:8073
- <https://airspy.com/airspy-hf-plus/>
- <https://airspy.com/spy-servers>
- <https://eesdr.com/en>
- <http://www.hfsignals.com> uBitx
- radio.thulesius.se SMOJZT-sidor



Koppla SDR-mottagare till lokal station/sändare

