AM DXing
at Information Age

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FOTO: LEM284 16NOV2009

Tapio Kalmi (TAK)

- DX listener since 1976, 157 verified countries and 1211 stations
- Member of FDXA, NRC and IRCA
- FDXA Board Member 1996-2007
- Radiomaailma Editor in Chief 1996-2000
- KOJE editor since 2008
- Married, wife Päivi, daughter Kiira, son Leevi
- Three cats: Luna, Sirius and Titan
- IT professional since 1985, Data Management Consultant since 1996

AM DXing

- Frequency ranges where AM mode transmitters broadcast
  - LW, 30-300 kHz, broadcast stations are fading away
  - MW, 530-1701 kHz, still interesting target, especially in Europe
    - European stations moving to FM and Internet giving more space to DX
    - http://www.bamlog.com/darkcountries.htm
  - SW, 2300-26000 kHz, broadcast stations are fading away to Internet
    - Tropical Band Surveys by Anker Petersen https://edxcnews.wordpress.com/
  - In USA "AM Band" means 530-1710 kHz in 10 kHz steps
- Broadcast Mode
  - AM mode is used at transmitter sites, there are only few exceptions to this
  - Listeners use AM or SSB (LSB/USB) whichever gives the best results
- In this presentation AM DXing is 530-1710 kHz distant broadcast signal reception

Information Age

The era in which the retrieval, management, and transmission of information, especially by using computer technology, is a principal (commercial) activity.

Oxford Living Dictionary

https://en.oxforddictionaries.com/definition/information_age

1985 Personal Computers for Home

2000 Public Internet

2004 Public Facebook

1994 Computer Aided Tuning (CAT)

2002 http://www.dxing.info

2003 http://log.hard-core-dx.com/ OLL

2006 LEM www-pages

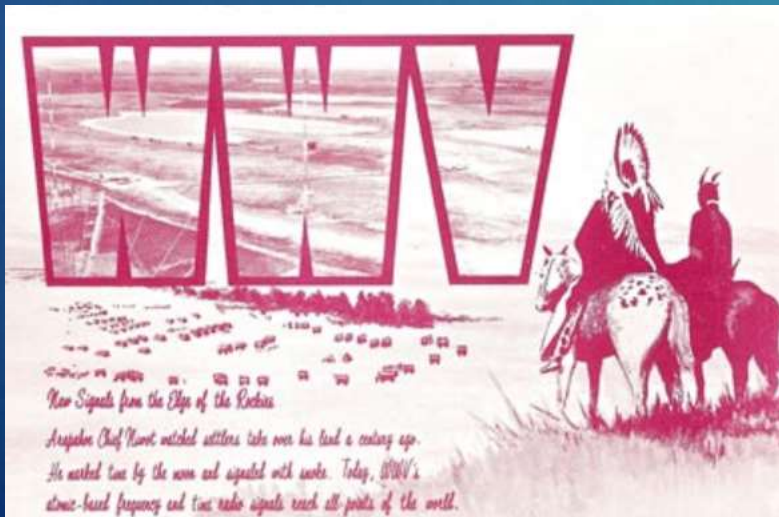2008 Software Defined Radio (SDR)

AM Dxing at Information Age
DXer's Information Needs: Introduction

- **CX**   When is it good time for DXing? When to go for a pedition?

- **TIME**   When to listen? When to record? Grayline Path?

- **RX**   Easy to use control software with station lists

- **REC**   Scheduled recording with frequency, timestamp and antenna info

- **ID**   Help to identify the station

- **LOG**   What I have heard? How the others are doing?

- **RPT**   Where to send the report?

- **QSL**   What QSLs I have? How about others QSLs?

AM Dxing at Information Age
DXer's Information Needs: CX 1990

AM Dxing at Information Age
DXer's Information Needs: CX 2017

NOAA   http://services.swpc.noaa.gov/text/wwv.txt

http://services.swpc.noaa.gov/text/27-day-outlook.txt

http://www.swpc.noaa.gov/communities/electric-power-community-dashboard

Kyoto   http://lasp.colorado.edu/space_weather/dsttemerin/dst_combo.jpg

FMI   http://aurorasnow.fmi.fi/public_service/

Alvestad http://www.solen.info/solar/

N3KL   http://www.n3kl.org/sun/noaa.html

VE3EN   http://www.solarham.net/

…   http://www.tapiokalmi.net/dx/am/
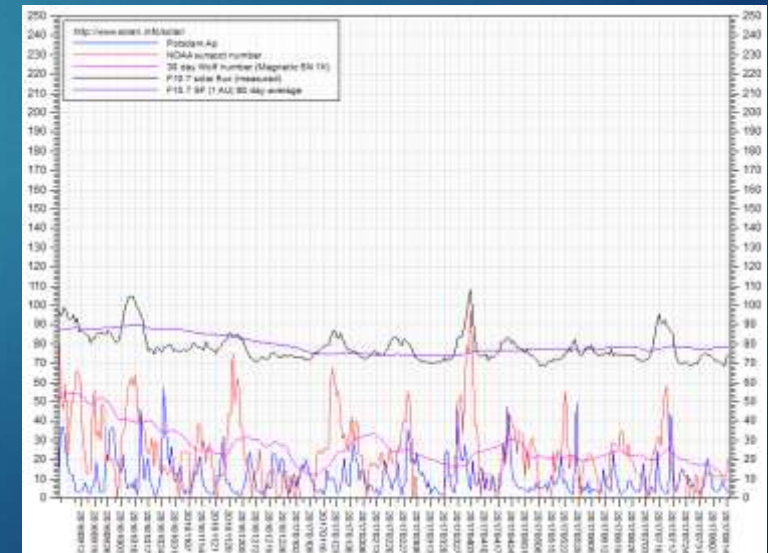
AM Dxing at Information Age
DXer's Information Needs: Time / Grayline
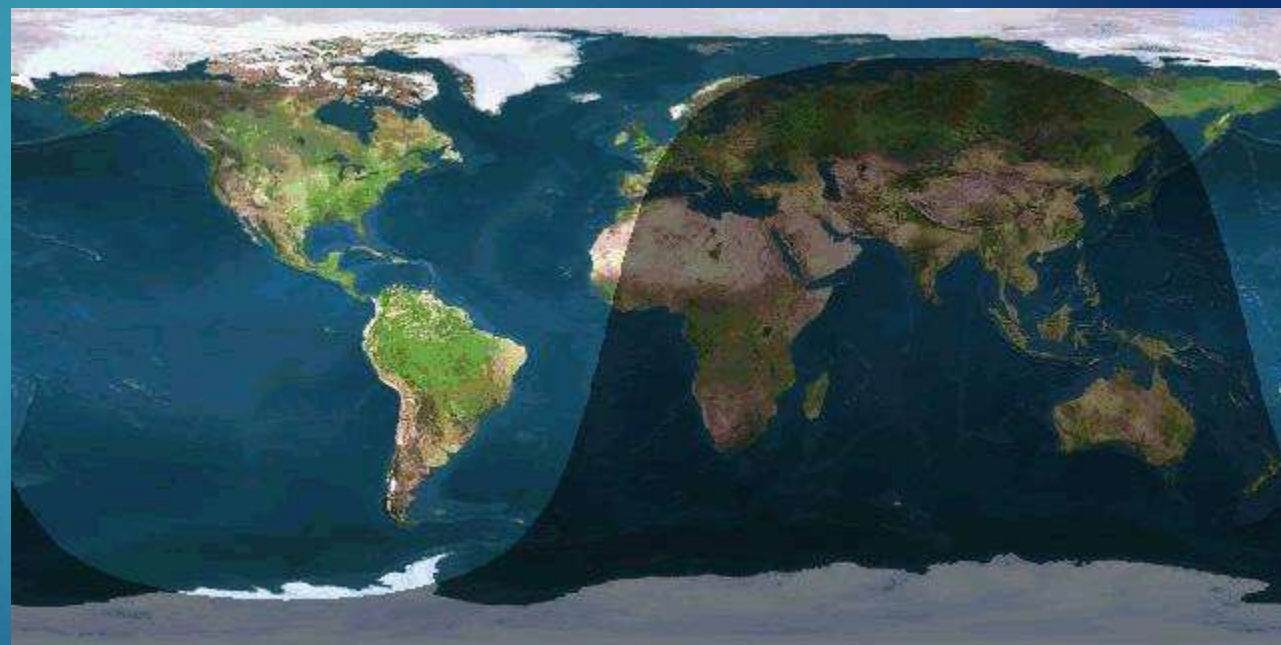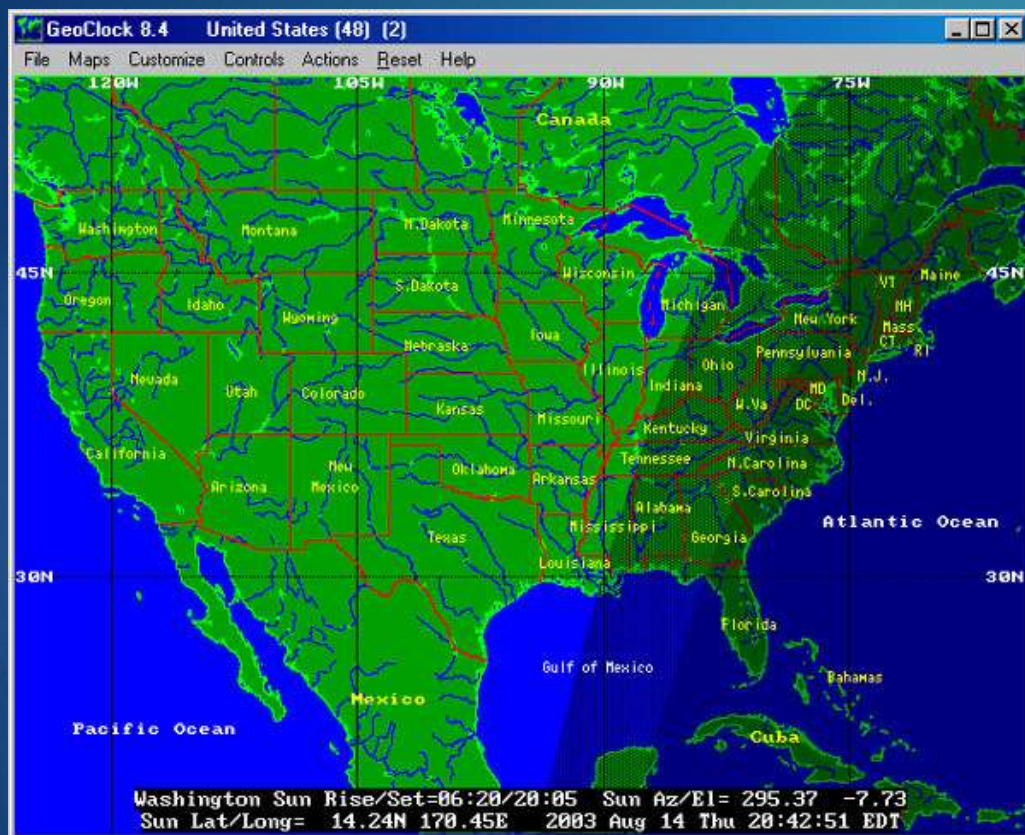
No Homepage = No new versions anymore

http://dx.qsl.net/propagation/greyline.html

AM Dxing at Information Age
DXer's Information Needs: Time / Grayline
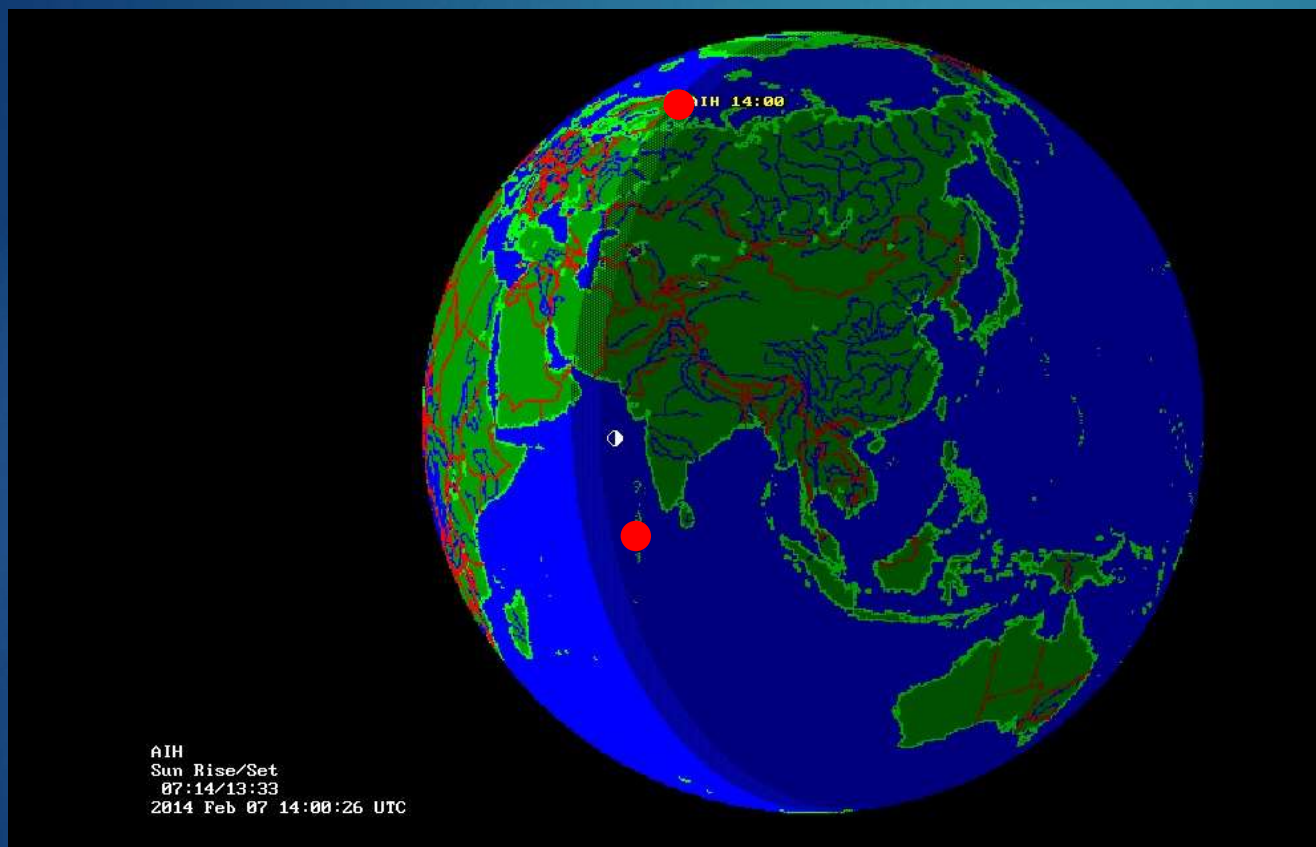
1449   7.2.14   1400-1420

MLD: Vo Maldives, Male. Came nearly all the way in grayline zone, so the signal was quite nice. Compared the live audio to the net stram and the program was the same. Station identification after the news at 1418 UTC (same ID as mentioned in WRTH). TOH ID didn't come so well, so need to try that later ... One main targets of the pedition accomplished, thanks Aihkiniemi. NOTE: Iran started today later on the same frequency (at 1420 UTC ;-). AIH33/TAK

AM DXing at Information Age DXer's Information Needs: RX From Computer Aided Tuning (CAT)

NRD-535

FRG-100

AM DXing at Information Age
DXer's Information Needs: RX
To Software Defined Radio (SDR)

AM DXing at Information Age
DXer's Information Needs: RX Control Software with Station List

http://zeiterfassung.3sdesign.de/station_list.htm

AM DXing at Information Age DXer's Information Needs: RX Control Software with Station Lists
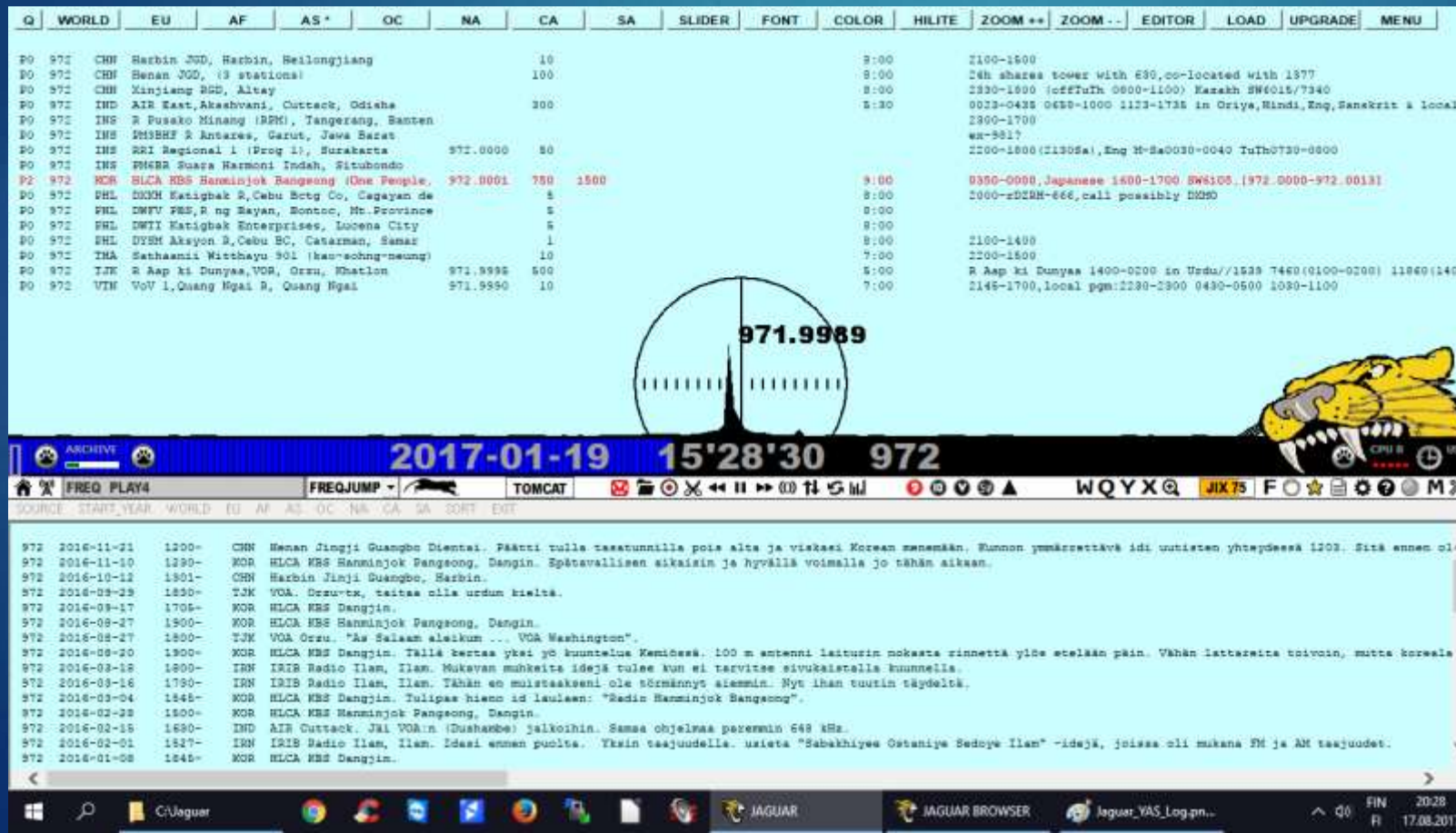
Jaguar Software TOMCAt view
When playing the recording

Top:
MWLIST information about stations on 972 kHz
Bottom:
Online Log Asia information about logged stations on 972 kHz

Many other nice features all around the screen to be popped up with a single mouse click.

AM DXing at Information Age
DXer's Information Needs: RX Control Software with Station Lists

- So, we have control software to use the station lists
- Now the main question is, where to find good lists which can be integrated with receiver?
  - http://www.mwlist.org/ul_login.php MWLIST
    - Best list of AM stations and transmitters from all over the world, LW, MW and SW
    - Weak point: Information about schedules and program content varies a lot
    - The whole list can be downloaded for Jaguar software
  - http://www.radioheritage.net/pal.asp PAL – Pacific-Asian Log and
  http://www.asiawaves.net/ Radio and TV Broadcasting in South and South-East Asia
    - Best lists of stations and transmitters from Pacific and Asia Region
    - A lot of information about schedules and identifications, but no data integration to any software
  - http://www.tapiokalmi.net/dx/koje/ KOJE – KOH – KOMEX
    - Especially for Nordic DX listeners who listen to North America, Hawaii and Mexico
    - Another station list in the list: stations which have been heard in Finland, Norway and Sweden
   - The whole list can be downloaded for Perseus software or Jaguar software

AM DXing at Information Age
DXer's Information Needs: REC

- Minidisk
  - Scheduling and automatic recording timestamps, no need for counter notes
- Audio files from various devices (PC, MuVo, etc digital recording devices)
  - More options for scheduling
  - Unlimited recording time
  - Graphical audio displays
- RF files (SDR recordings are not audio but radio frequency files)
  - The whole AM Band with frequencies and timestamps recorded at once, no need for recording book keeping anymore
  - Re-tuning / Re-filtering / etc possibilities
  - Graphical User Interfaces to ease the use of different functions
- Digital recordings are shared over the internet
  - Possibility to study station identifications, slogans and other program content
  - Possibility to ask natives help to identify the station

AM Dxing at Information Age
DXer's Information Needs: REC
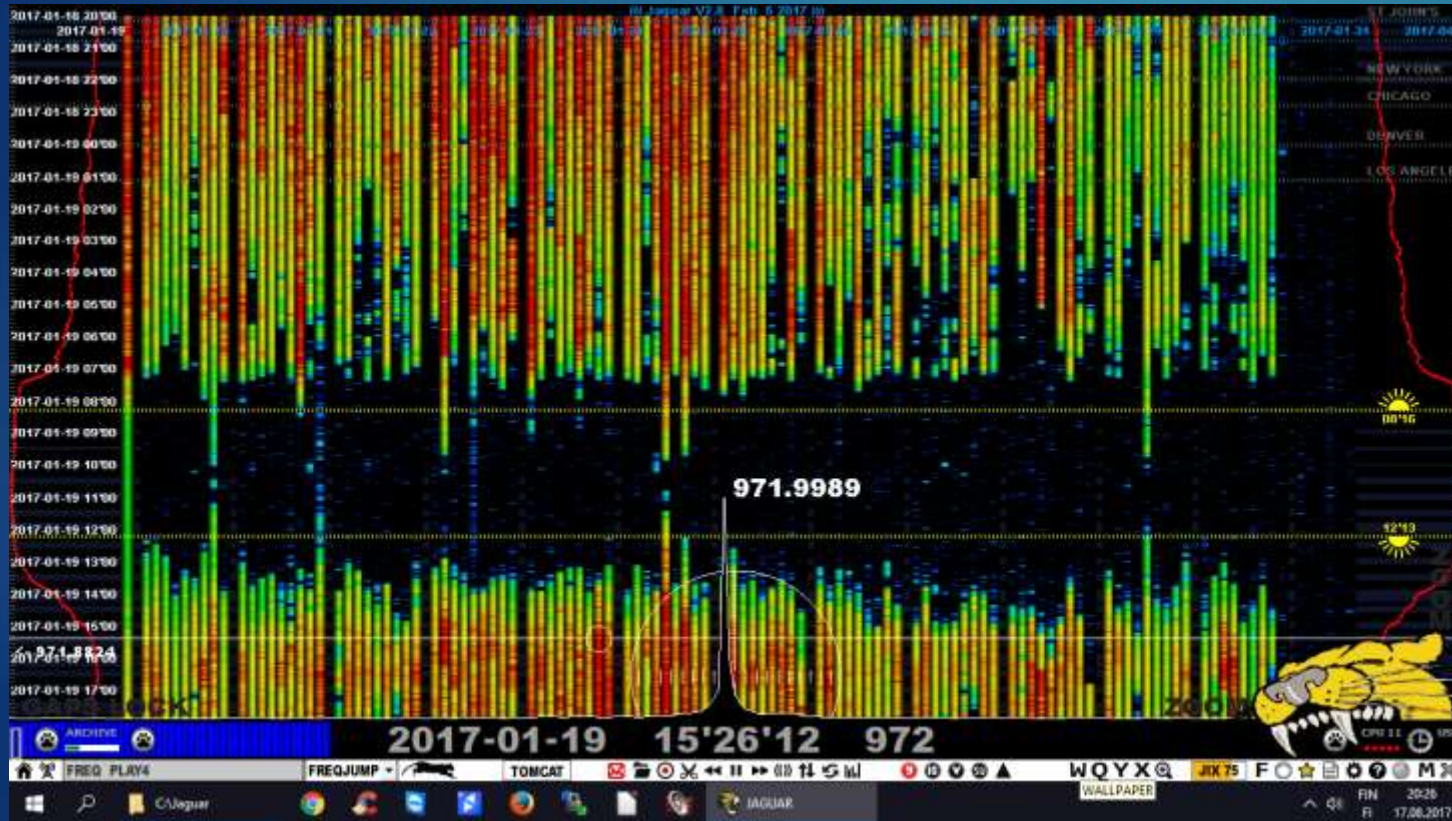
Jaguar Software YAS LOG view when listening to the recordings

Waterfall shows the history over time for each frequency in 9 or 10 kHz steps depending of the users choice.

On the left and right JIX index level with Red lines. These are calculated from signal levels of each frequency.

Sunrise and sunset times shown graphically.

Detail information about the selected frequency
- Exact frequency of the signal
- If offset FRQ match, also station name

AM DXing at Information Age
DXer's Information Needs: ID

- Station lists filtering and searches help a lot as well as Internet Streaming and DX recording sharing over the Internet, but Jaguar software has also "AM RDS", automated AM station identification using information about
  - Offset frequencies
  - Antenna direction

AM Dxing at Information Age
DXer's Information Needs: LOG

Worldwide Visual Logbook 20JAN2017 at http://www.mwlist.org

Individual logs in blogs and personal web pages

Still most of the edited logs are in the same format as in printed papers. They are only stored and delivered in PDF files:
- IRCA Soft DX News, USA
- NRC DX News, USA
- DX Aktuellt, Nordics
- DX Clusive, Finland
- Radiomaailma, Finland

Some AM log databases exist, but only few of AM DXers use them
- MWLIST, Germany
- OnLineLog, Nordics

AM Dxing at Information Age DXer's Information Needs: RPT

- Radio station v/s lists or QSL pictures in various DX magazines
  - www page addresses
  - Email addresses
  - Snail Mail addresses
- Commercially available lists
  - For example from Radio Locator: https://radio-locator.com/

- Google search
  - any document with station name and/or call sign
  - Email addresses are in many cases quite hard to find

AM Dxing at Information Age
DXer's Information Needs: QSL
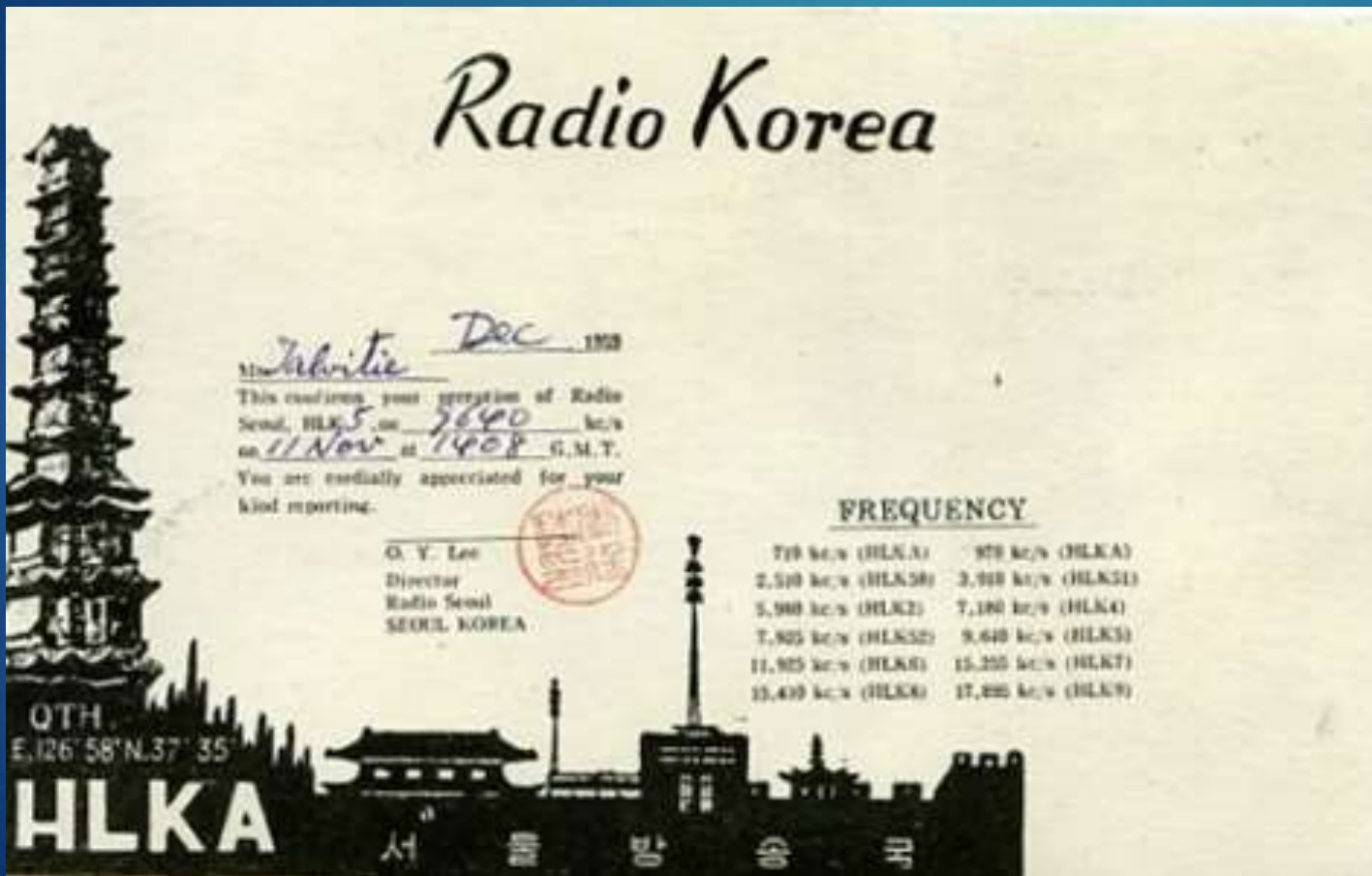
Individual DXer's QSL pictures are in blogs and personal web pages etc.

Still most of the edited QSL listings are in the same format as in printed papers. They are only stored and delivered in PDF files …

Have not found any real QSL database of DX listeners QSLs. There are many QSL database applications available for radio amateurs.

Some statistics has information about the first verifications, but not full data of all verifications.

AM Dxing at Information Age
DXer's Information Needs: Summary

EASY LIVING

- **CX** A lot of summarized and visualized history data available.
  Forecasts getting better all the time, but we still have a lot to learn.

- **TIME** Knowledge available in nice user friendly format and integrated in RX controls.

- **RX** User interfaces developping step by step.

- **REC** RF recordings integrate all needed info (timestamp, FRQ, QTH, ANT)
  Jaguar makes also visual CX summary on the fly.

- **ID** A lot of sample material and native listeners help available over Internet.

BUT SOME MORE THINGS TO DO

- **LOG** Suprisingly low level of integration. Only some databases. Data quality issues.
  Most of logs still in the same format as in the 80's.
  Many different formats and therefore hard to combine.

- **RPT** Very hard to find direct contact information because stations avoid spam

- **QSL** Information in blogs, web pages and magazines.
  Many different formats and therefore hard to combine.

**Thank you for listening!
Any questions?**