

Revision history:

Version 2.37:

fixed: ESP Setup prompts

Version 2.36:

fixed: eliminate RPi fb0 cursor flicker

fixed: RPi unable to control HDMI on/off when started from certain crontab entries

fixed: Santa could reboot ESP in certain situations

Version 2.35:

new: track Santa on Dec 24

new: RPi WiFi setup

changed: redesigned Setup screen

Version 2.34:

changed: 5x more efficient RSS handling

fixed: time could be several seconds off when started via crontab

fixed: UTC button could fail to turn on after failed NTP restored

Version 2.33:

new: horizon coordinate grid on satellite pass map

new: remote command set_display?on/off

changed: remote set_touch command does not turn display on

changed: blank out fb0 cursor after initial timeout period

fixed: remote get_capture.bmp for largest size

fixed: more efficient handling of failed remote command server

Version 2.32:

fixed: allow escaping from DX Cluster pane if call not valid

fixed: ignore taps between main seconds and UTC button

changed: turn off UTC button if no NTP (in addition to large question mark)

changed: remove trailing effect from RPi fb0 cursor over map

Version 2.31:

new: show dx cluster port number

new: 30 degree tick marks on satellite path horizon

new: major work in preparation for gimbal and rotator support

fixed: timezone values near Long Beach CA

fixed: dx cluster report could overflow its pane boundary

Version 2.30:

fixed: network issue when dx cluster and satellite both active

fixed: incorrect spot callsign prefix

Version 2.29:

fixed: compile bug on RPi

Version 2.28:

fixed: several EEPROM settings were still getting lost. Hopefully this is the last EEPROM bug .. thanks for your patience.

Version 2.27:

fixed: call sign was lost after Setup screen and some EEPROM values will need resetting

Version 2.26:

fixed: DX Cluster could hang depending on connection state

changed: leave DX Cluster host blank to disable entirely

changed: allow call signs up to 11 characters long

Version 2.25:

changed: DX Cluster now requires Setup server entry, there is no default

fixed: improved plot data error messages

Version 2.24:

new: tapping a DX Cluster spot will set it as new DX

fixed: Wire.cpp compile error on some UNIX systems

Version 2.23:

new: DX Spider spots are an option in the center plot area

Note: You are logged into a cluster while this pane is visible.

changed: desktop no longer accepts host time, ? warning is displayed unless NTP network time is confirmed

fixed: DX prefix tag could go off the map when very close to right edge of AZM projection

fixed: possible missing WX error message

fixed: change in V2.18 broke timezone offset near zone boundaries

Version 2.22:

fixed: 24 hour clock-off bug

fixed: added better desktop remote update error messages

fixed: xray plot guards against bogus 0 values

Version 2.21:

fixed: ESP sporadic rebooting

Version 2.20:

change: ESP with photoresistor now also includes on/off timer control

change: underline "DX:" to suggest it can be clicked for sat selection table

fixed: tweaked several prefix locations

Version 2.19:

new: show closest DX prefix when tap new location if one is near

new: option to show DX prefix instead of sun rise/set times (tap to select)

new: display on/off timer control if no photoresistor in ESP or RPi fb0

change: sat selection shown only if requested (no longer shown on boot)

change: significant core graphics redesign

change: RPi FBO cursor disappears after 2 seconds of no mouse motion

fixed: turning on geoip in setup disables lat/long fields

fixed: desktop network info now uses /sbin/ip if no /sbin/ifconfig

fixed: add slash to desktop small font 0 to match ESP

fixed: possible loss of desktop EEPROM emulation file

Version 2.18:

new: show sat pass duration next to max elevation; remove zenith marker

new: touching top and bottom edges of hours changes by 2, minutes by 10

fixed: desktop map is brighter and has much simpler oceans

fixed: NCXDF call sign could encroach on RSS area

fixed: sat name over oceans better avoids DE and DX markers

Version 2.17:

new: separate maps optimized for TFT and desktop displays

new: third lat/long grid option showing tropics

new: show NCDXF call sign beneath each station

fixed: more natural character spacing in setup

fixed: stop sun and moon from flashing when at right edge

Version 2.16:

new: support for 2400x1440 and 3200x1920 desktop sizes; no feature changes.

Version 2.15:

new: display serial number in network splash screen

fix erasing ? when NTP resumes

Version 2.14:

Argh, missed another spot for GFX library

Version 2.13:

missed one spot for GFX library

Version 2.12:

tighten up geometry for latest GFX library

fix stopwatch rollover after 99 hours

Version 2.11:

Change to accomodate Adafruit_RA8875.h version 1.3.3

Version 2.10:

new: stopwatch

new: tap Rise/Set to toggle between duration vs local time

new: optional map lat/long grid

Version 2.09:

added new server command to allow displaying any satellite:

http://Your-HFClock-IP/set_sattle?name=abc&t1=line1&t2=line2

Like all the server commands, you can send this with most browsers or with curl or wget from the command line.

Unfortunately, Chrome tries to be helpful so will not work unless you replace each blank with %20.

Version 2.08:

coordination release, no functional changes

Version 2.07:

new: VOACAP predictions may be made for short or long path

new: tap sat name on map to get pass details (in addition to sat location)

new: color key added to sat selection pane title

new: better RPi X11 desktop drawing performance

Version 2.06:

fixed: bearing and map used lat/long 0/0 after boot until set

new: tapping bearing to toggle between short and long path changes distance to match

Version 2.05:

fixed: preserve DE grid square

fixed: DX grid square would show through if click there while sat pass is shown

fixed: fill screen off by 1 pixel in X11 version

Version 2.04:

new: tap bearing to toggle between long and short path

new: tap sat name to see pass details (in addition to current sat location)

fixed: disable tty1 getty on fb0 version

Version 2.03:

fixed: do not start collecting sensor data until NTP time has succeeded

fixed: say "No Set", not "No Rise", when geostationary satellite is visible from DE

fixed: left-right cursor wrap in RPi fb0 version

reduce flicker when sun is near moon

Updated remote command set, send /help for list

Version 2.02:

Change Band Conditions title to hopefully clarify the meaning of the table

Version 2.01:

New option to set DE Lat/Long automatically using IP geolocation service

2x Mercator and 1.3x Azimuthal map drawing speed up

Added some NOAA weather satellites to list

Version 2.00:

Setting a new DX location shows VOACAP band predictions from DE

Version 1.94:

fix bug in RPi version that interfered with WiFi configuration

Version 1.93:

all new brightness controls

Version 1.92:

only ask for WiFi credentials in Setup on ESP version, require user to setup their internet first on other versions

Version 1.91:

fix bug where DE DST flag was not being restored from NVRAM

fix bug causing moon to leave sparkles on edge of azimuthal map

use manufacturing wifi credentials as initial default

change brightness bulbs from yellow to white

draw small symbol if photoresistor is detected

draw satellite name grayed out in list if never rises at DE

Version 1.90:

add light bulb icons as display brightness controls (ESP models only)

fix rare issue when a satellite pass lasted less than 90 seconds

Version 1.89:

do not draw DX marker if should be hidden by RSS

allow lower case nsew in login screen

remove blinking cursor in RPi fb0 version

improve methods for discovering gateway and wlan0 ip in RPi version

shorter network count-down

add grid square touch to show possible alternate if not exactly at integral coordinates

Version 1.88:

fix RPi fb0 cursor overflow along bottom edge

don't redraw map if tap on UTC when already On

don't briefly show DE info after refresh when analog clock is enabled

fix down counter color in remote update pane

Version 1.87:

Tweak analog clock hands

fix bug if satellite pass curve is very short

fill black border on RPi fb0 version to erase any system messages

Version 1.86:

squeeze more Satellites in table

Version 1.85:

fix character spacing issue in Setup screen

fix issues building on Ubuntu-MATE

Version 1.84:

only draw transmitting NCDXF beacons

preselect No button to emphasize firmware update will not occur by default

show satellite list name red if up now, green if up soon

faster satellite list drawing

Version 1.83:

Show time to next rise for each satellite in selection screen

Start NTP rotation with time.google.com

Version 1.82:

Swap colors for satellite track and footprint

Label 0 (now) on plots with future predictions

Version 1.81:

Increase tap hold time to 1 full second

Draw satellite footprint in darker red to better distinguish from track

Fix sometimes erasing screen lock padlock

Version 1.80:

Add new analog DE clock option

Version 1.79:

holding the screen lock padlock will restart

use same stored colors in splash call sign

Version 1.78:

fix sat pass graphic if maximum elevation less than 1 degree
allow using keyboard in Setup pane if built for x11

Version 1.77:

support for longer WiFi SSID and password

Version 1.76:

add dew point sensor plot
prompt Tap or Click

Version 1.75:

Show Satellite name immediately when set a DX
fix bug in desktop EEPROM emulation that eventually starved all io

Version 1.74:

Satellite name cooperates with RSS

Version 1.73:

label satellite name on map when not in DX region

Version 1.72:

- smoother sensor plot update after changing satellite
- report wifi RSSI on linux
- add HFclock-fb0-small Makefile target for RPi's with 7" screens
- more reliable reporting of MAC address

Version 1.71:

- don't ask rotation on desktops

Version 1.70:

- restore uptime after changing satellite

Version 1.69:

- higher resolution moon symbol on big desktop versions
- better looking J on big desktop versions
- fix occasional missing or partially drawn lines in desktop versions

Version 1.68:

- big desktop versions display commensurately higher resolution SDO images

Version 1.67:

- support self updating in desktop versions too
- tap Version to check whether an update is available (all versions)

Version 1.66:

allow resizing desktop versions

allow listing more satellites

Version 1.65:

better moon rendering

Version 1.64:

fix stray satellite path pixels at edge of Azimuthal view

Version 1.63:

add support for linux, RPi and macOS desktop

Version 1.62:

fix problem where a new sat selection was not always used

Version 1.61:

add satellite and settime REST commands

improve checking whether TLE is suitable epoch

improve Bosch BME280 temperature and humidity accuracy

Version 1.60:

label satellite path zenith and maximum elevation
add memory and reboot REST commands

Version 1.59:

remove grayline option, replace GRA button with AZM
improve memory management for long paths
add count down to firmware update screen
fix sat tracks leaving pixels on map edge

Version 1.58:

better twilight for RPi version too

Version 1.57:

much better grayline twilight graphics
erase dx marker and path when changing to Satellite info mode

Version 1.56:

better screen management going into and back from sat selection page
refresh sat info if user changes time a lot
increase current satellite location tap area
fix tapping area for dx lat/long

Version 1.55:

add display of Earth satellites

Version 1.54:

linux version now just uses existing network

progress dots replaced with count down

improved environment sensor initialization and expand plot to 25 hours

better http handling

reduce linux map raster jaggies

Version 1.53:

fix xray level designation below A and above X

Version 1.52:

display xray level designation

accommodate more RPi screen resolutions

fix rainbow on RPi

Version 1.51:

new Earth map

add support in RPi version for Bosch BME280 environment sensor

Version 1.50:

first release supporting Raspberry Pi

refresh RSS immediately when toggle map projection

display complete IP address

fix box around wx report that did not quite match the alternate plot

Version 1.49:

show device MAC address before connecting

Version 1.48:

RSS now occupies 2 rows

Version 1.47:

all new RSS system that retrieves from my server

displays round robin from ARRL, Southgate, eHF and DXNews

label weather units

Version 1.46:

remove eHF RSS because they now redirect to https and there is no room in Huzzah to support https.

Version 1.45:

add Setup option to enter initial DE lat and long

center date better under wider call sign area

timezone table now uses 1 degree resolution

add photocell wiring to README

Version 1.44:

add Setup option to rotate screen

squeeze out a little more room for wider call signs

offer a little more time to choose Recalibrate and Setup screens

Version 1.43:

remove option to downgrade

fix plot bug if sensor drops out for extended period then recovers

Version 1.42:

More automated remote update knows when a new version is available

Touch now supports auto-repeat in most fields

Add degree symbol to weather temperature value

Add more specific weather error messages

Version 1.41:

Show weather data for 30 seconds after changing DE or DX

Version 1.40:

a little more map detail

more robust RSS parser

faster WiFi retries when signal is lost

fix RSS flashing when no WiFi signal

increase clock from 80 to 160 MHz

Version 1.39:

eliminate need for Shift key in setup keyboard -- show both cases at once

Raise upper case J in smaller font

Version 1.38:

add remote WiFi firmware updating

smoother brightness control

fix speckles across the bottom of RSS banner

allow 0-length setup fields

more efficient Grayline toggle

new REST commands:

http://<HFclock_ip>/newdegrid?AB12

http://<HFclock_ip>/newdxgrid?AB12

Version 1.37:

better J in regular font

softer border lines

use separate colors for short and long path

add more instructions for touch screen calibration

more grid square mods

Version 1.36:

add Azimuthal projection option

add WiFi connection progress dots

add degree symbol after bearing angle

Version 1.35:

accommodate changes in ESP library version 2.4.0 and still maintain compatability with older versions

Version 1.34:

allow Huzzah to reuse stored SSID for faster booting and faster recovery if WiFi comes back

fix for rare compile problem related to Time.h by changing to TimeLib.h

split right plot touch so top half cycles SDO images and bottom half cycles sensor plots (if installed)

tweak xray download code

Version 1.33:

further improve rendering call signs containing descending characters

improve WiFi state reporting and resilience to NTP errors

plot both long and short XRay wavelengths

Version 1.32:

add padlock icon that locks screen

tweak time zone for Bouvet Island

Version 1.31:

alternate WiFi dBm with IP

Version 1.30:

redirect all web accesses to CSI server

increase wifi login timeout

Version 1.29:

Tweak RESTful commands

http://<HFclock_ip>/touch?x=X&y=Y

http://<HFclock_ip>/capture.bmp

http://<HFclock_ip>/help

Version 1.28:

25 hour XRay plot

More RESTful commands, returns new values in JSON format if applicable

http://<HFclock_ip>/capture

http://<HFclock_ip>/sensors

http://<HFclock_ip>/grayline?on/off

http://<HFclock_ip>/newde?lat=X&long=Y

http://<HFclock_ip>/newdx?lat=X&long=Y

Version 1.27:

avoid pressure values overflowing plot size in metric mode

Version 1.26:

reduce clock flicker -- contributed by W2ROW

Version 1.25:

add Metric/Imperial setup option to choose sensor plot units

Version 1.24:

make GRA button more consistent with RSS

fix rounding error in maidenhead grid square calc

reset sensor queue if fails to restart

Version 1.23:

add grayline on/off button

Version 1.22:

add grayline down to 12° twilight

Version 1.21:

better setup keyboard

Version 1.20:

improve rendering of call signs with descending characters J and Q

Version 1.19:

fix SDO web site name

Version 1.18:

fix display bug if solar flux prediction download fails

Version 1.17:

improve drawing lunar phases

reset the Bosch sensor if any value seems bogus