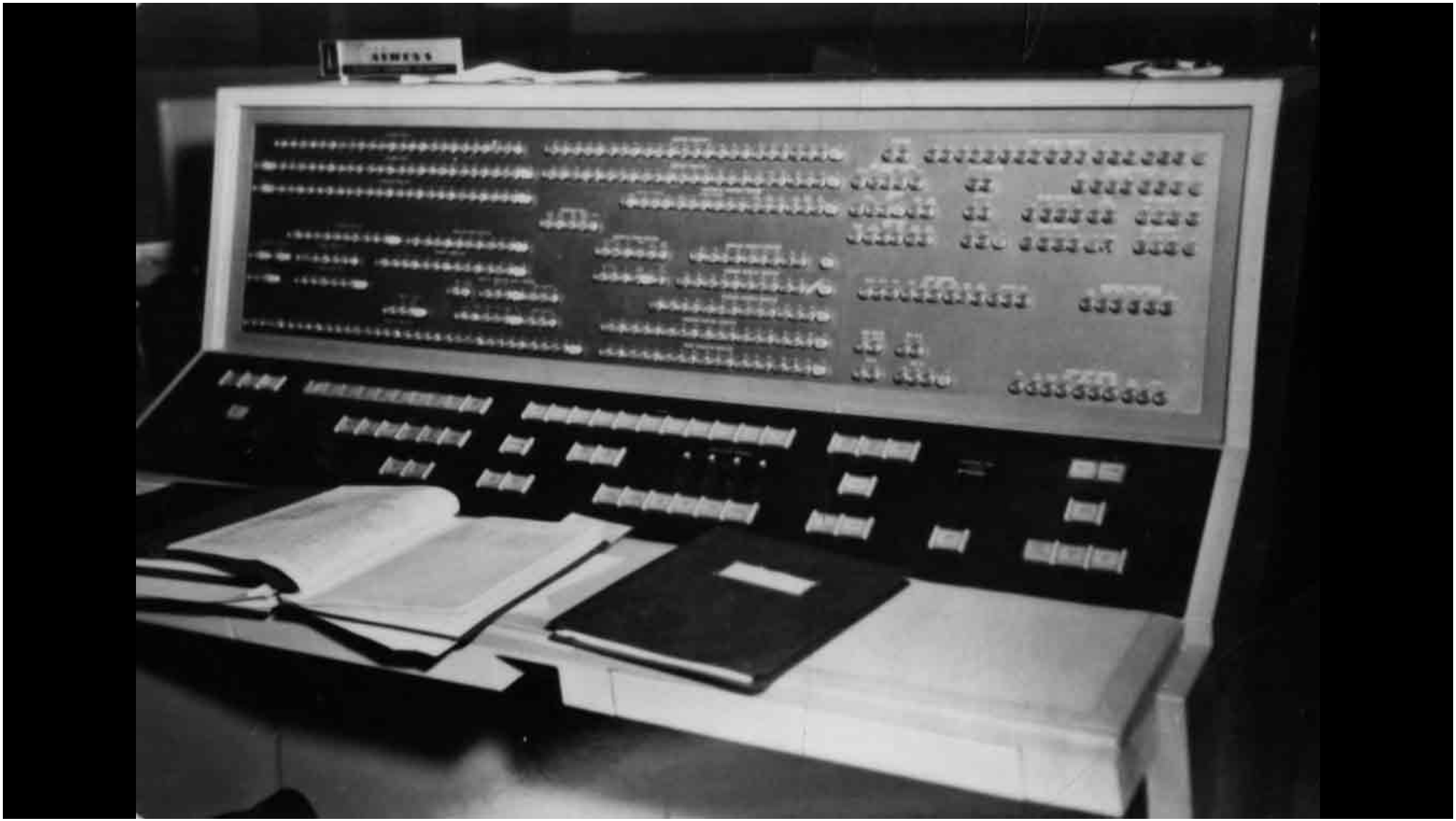
IAAS

Radio Astronomy and Ham Radio
Activities at Star Haven Observatory


ADDRESS


CASHEWS
RIDGID
DELL


BLACK&DECKER
NASA


FLAMMABLE
3
KEEP FIRE AWAY
CORROSIVE
8
CORROSIVE
NAVY
SP 150
CRAFTSMAN
CONTRACTOR'S SERIES
10" Bevel Rip
3 HP


MANDALORI


ELEVATION-AZIMUTH DUAL CONTROLLER G-5400B
ELEVATION
AZIMUTH
DOWN
UP
LEFT
RIGHT
POWER


DELL
DLESE
Digital Library for Earth System Education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DELL
DLESE
Digital Library for Earth System Education
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CN-901
Drywall Screws


Ricofiesta


NASA

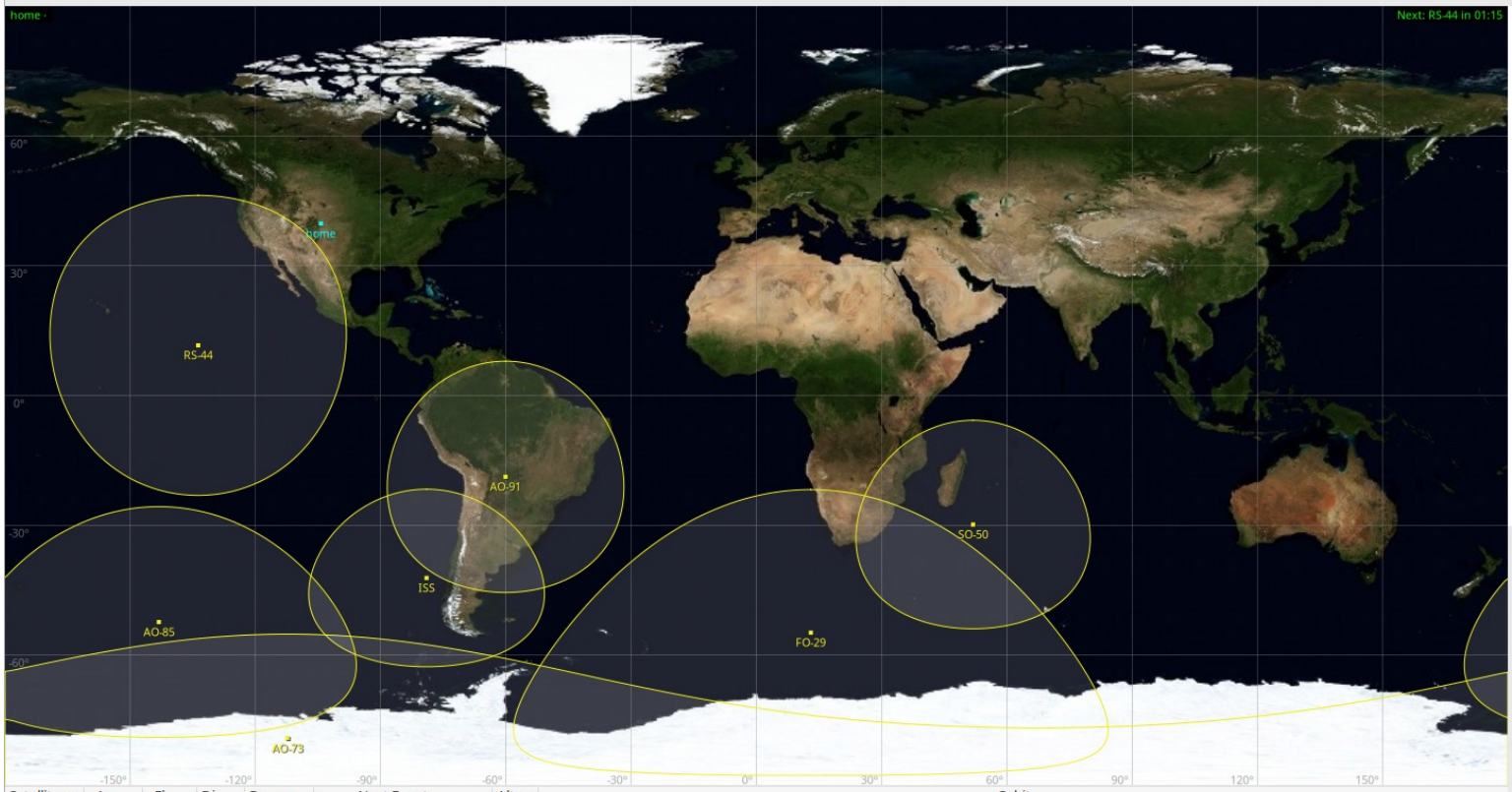

PYRAMID
DELL
DELL
DELL

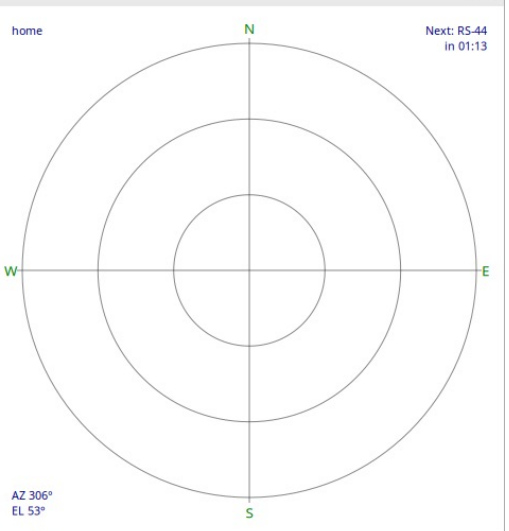

COLORADO

Gpredict: Amateur

File Edit Help

2023/10/14 01:27:33

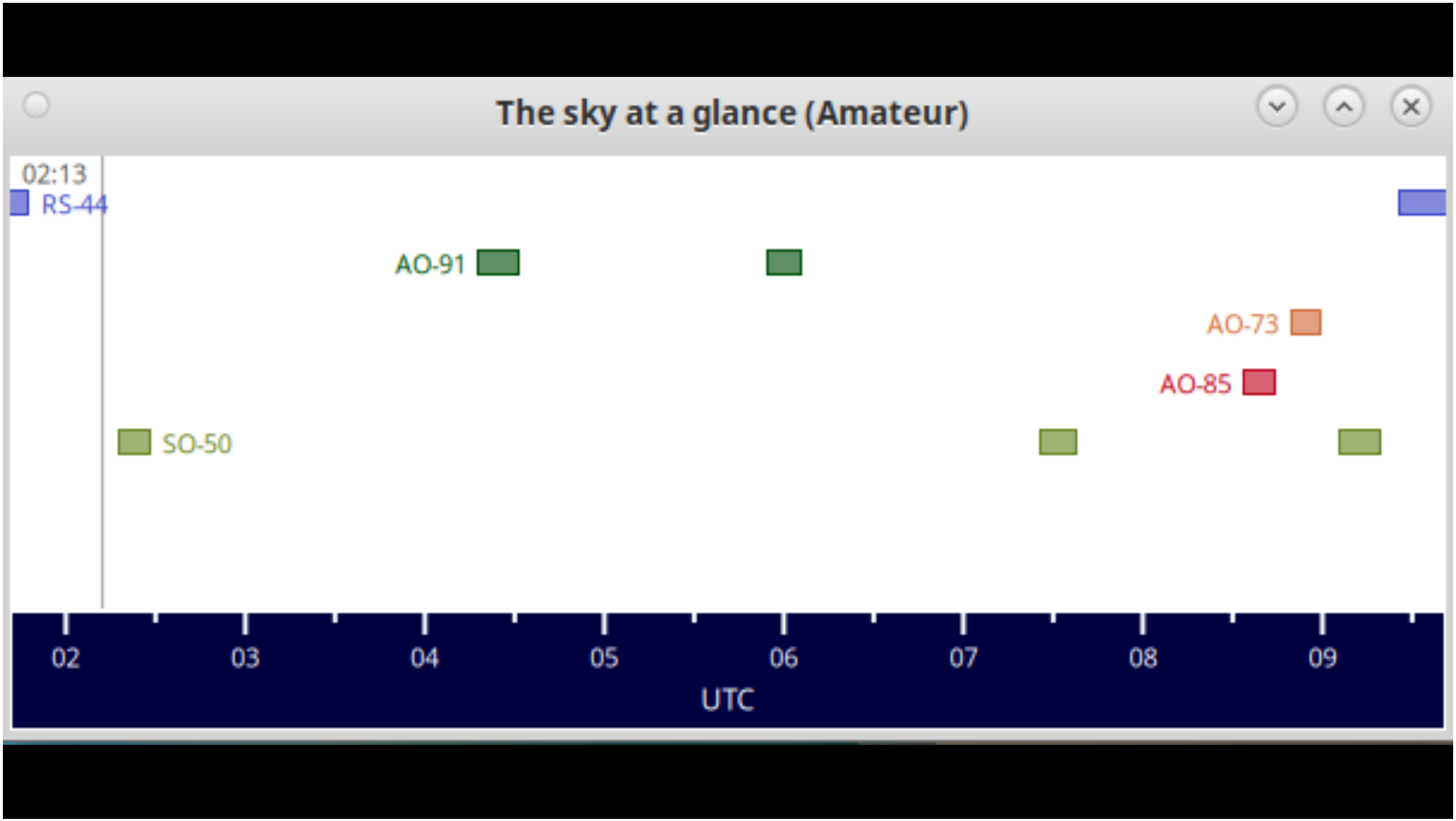




Satellite	Az	El	Dir	Range	Next Event	Alt	Orbit
AO-73	181.87°	-58.01°	↑	11472	AOS: 2023/10/14 08:50:27	605	53331
AO-85	202.59°	-46.31°	↓	10185	AOS: 2023/10/14 08:34:42	759	34254
AO-91	135.96°	-31.44°	↓	7929	AOS: 2023/10/14 04:19:02	764	31885
FO-29	131.93°	-66.30°	↑	12976	AOS: 2023/10/14 09:45:02	1234	34126
ISS	161.13°	-40.65°	↓	8905	AOS: 2023/10/14 12:55:09	432	42022
RS-44	231.42°	-3.10°	↑	4768	AOS: 2023/10/14 01:28:47	1379	17737
SO-50	69.97°	-78.67°	↓	13118	AOS: 2023/10/14 02:18:24	609	11979

ISS

Azimuth	161.13°
Elevation	-40.65°
Slant Range	8905 km
Range Rate	4.252 km/sec
Next Event	AOS: 2023/10/14 12:55:09
SSP Loc.	FE07QO
Footprint	4570 km
Altitude	432 km
Velocity	7.651 km/sec
Doppler@100M	-1418 Hz
Sig. Loss	151.39 dB
Sig. Delay	29.71 msec
Mean Anom.	94.51°
Orbit Phase	132.90°
Orbit Num.	42022
Visibility	Daylight


The sky at a glance (Amateur)
02:13
RS-44
AO-91
AO-73
AO-85
SO-50
02
03
04
05
06
07
08
09
UTC

Gpredict: Free, Real-Time Satellite Tracking and Orbit Prediction Software — Mozilla Firefox

File Edit View History Bookmarks Tools Help

Gpredict: Free, Real-Time S ×

gpredict.oz9aec.net

Import bookmarks... solarisskunkwerks Node-RED Interacting with Ardu... should read node-re... also should read Writ... read node-red-contri...

gpredict

Saturday, 14 Oct 2023, 01:01 UTC

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Features
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Developer
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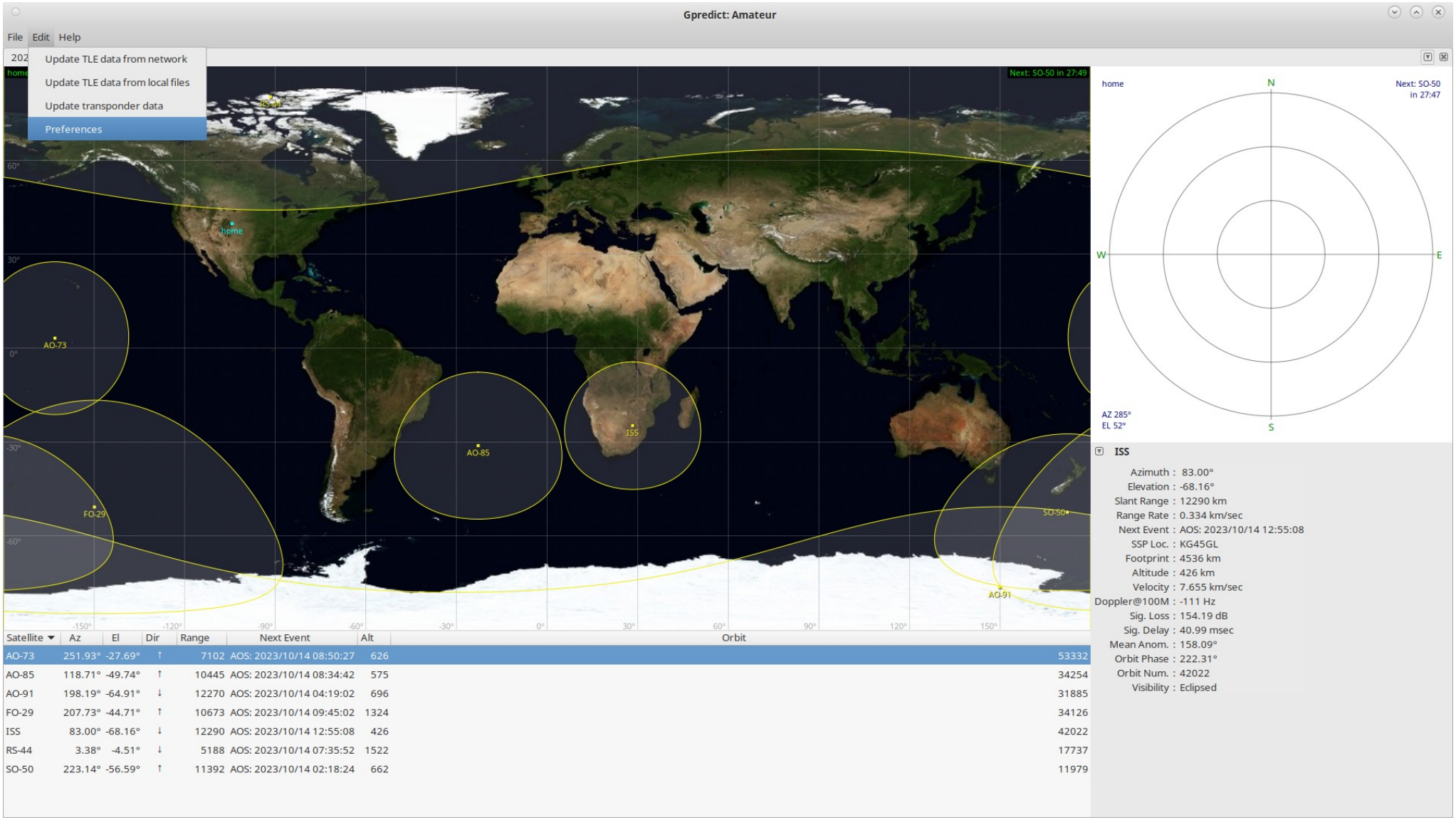
About Gpredict

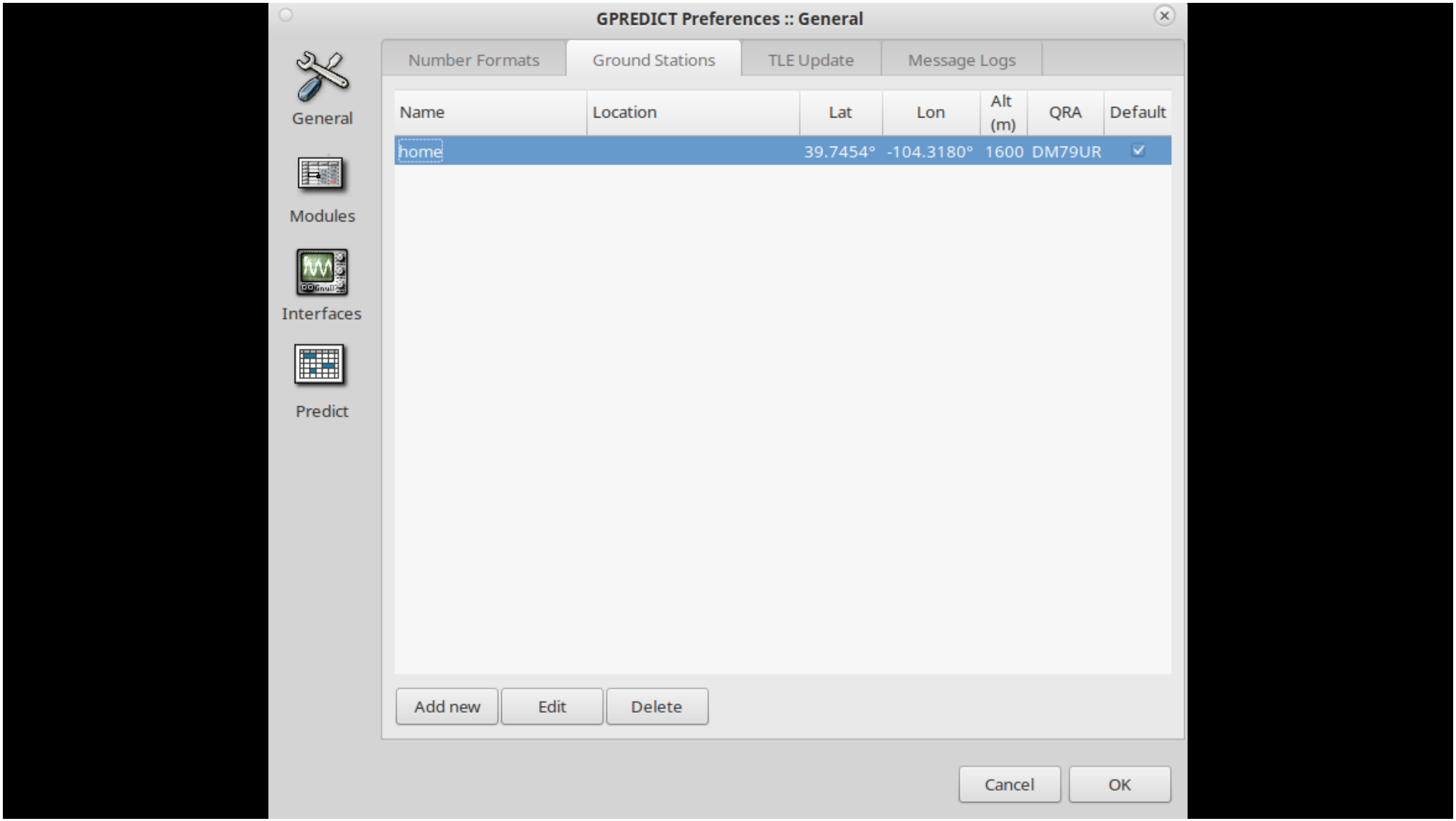
Gpredict is a real-time satellite tracking and orbit prediction application. It can track a large number of satellites and display their position and other data in lists, tables, maps, and polar plots (radar view). Gpredict can also predict the time of future passes for a satellite, and provide you with detailed information about each pass.

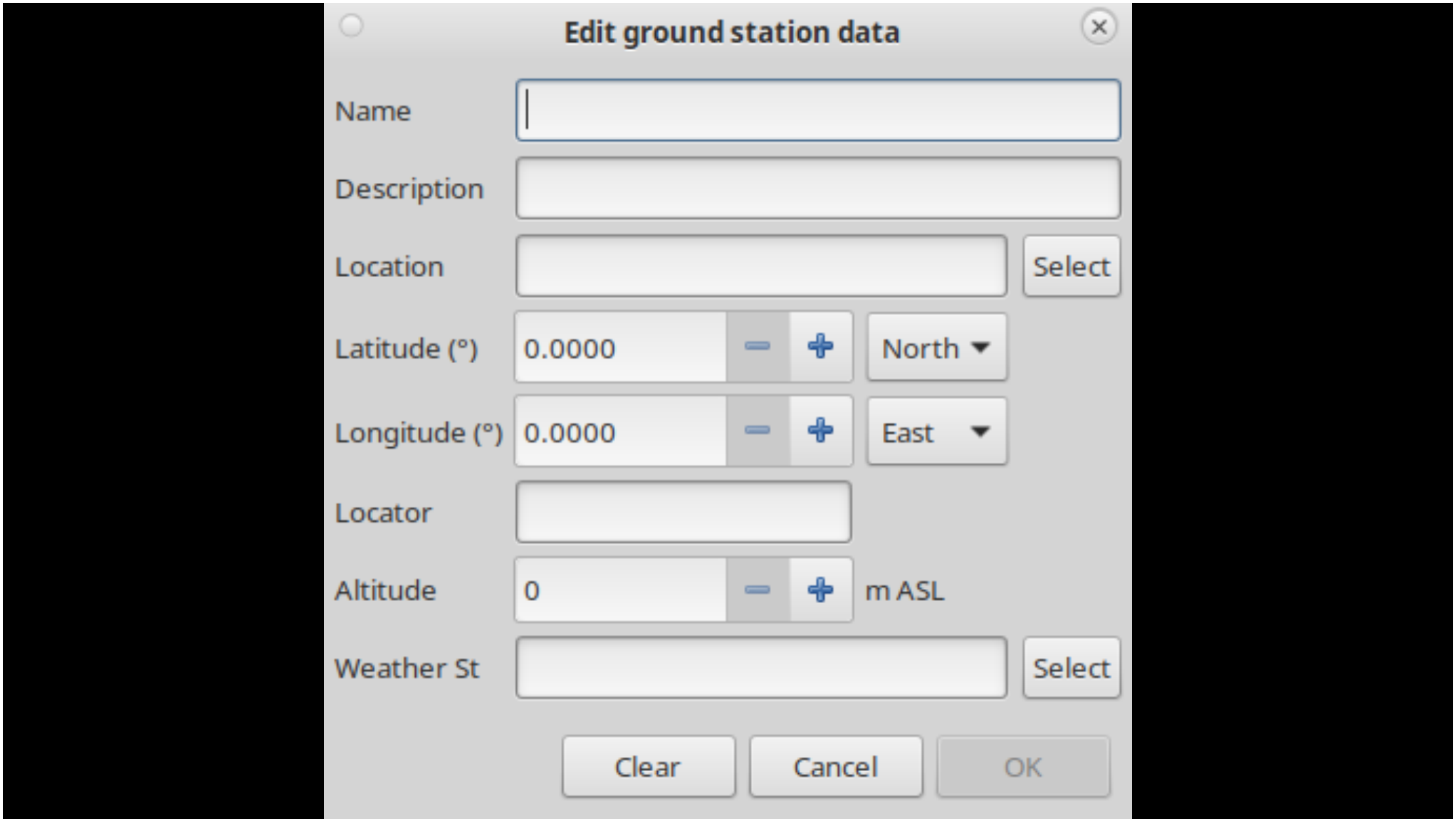
Gpredict is different from other satellite tracking programs in that it allows you to group the satellites into visualisation modules. Each of these modules can be configured independently from the others giving you unlimited flexibility concerning the look and feel of the modules. Naturally, Gpredict will also allow you to track satellites relatively to different observer locations - at the same time.

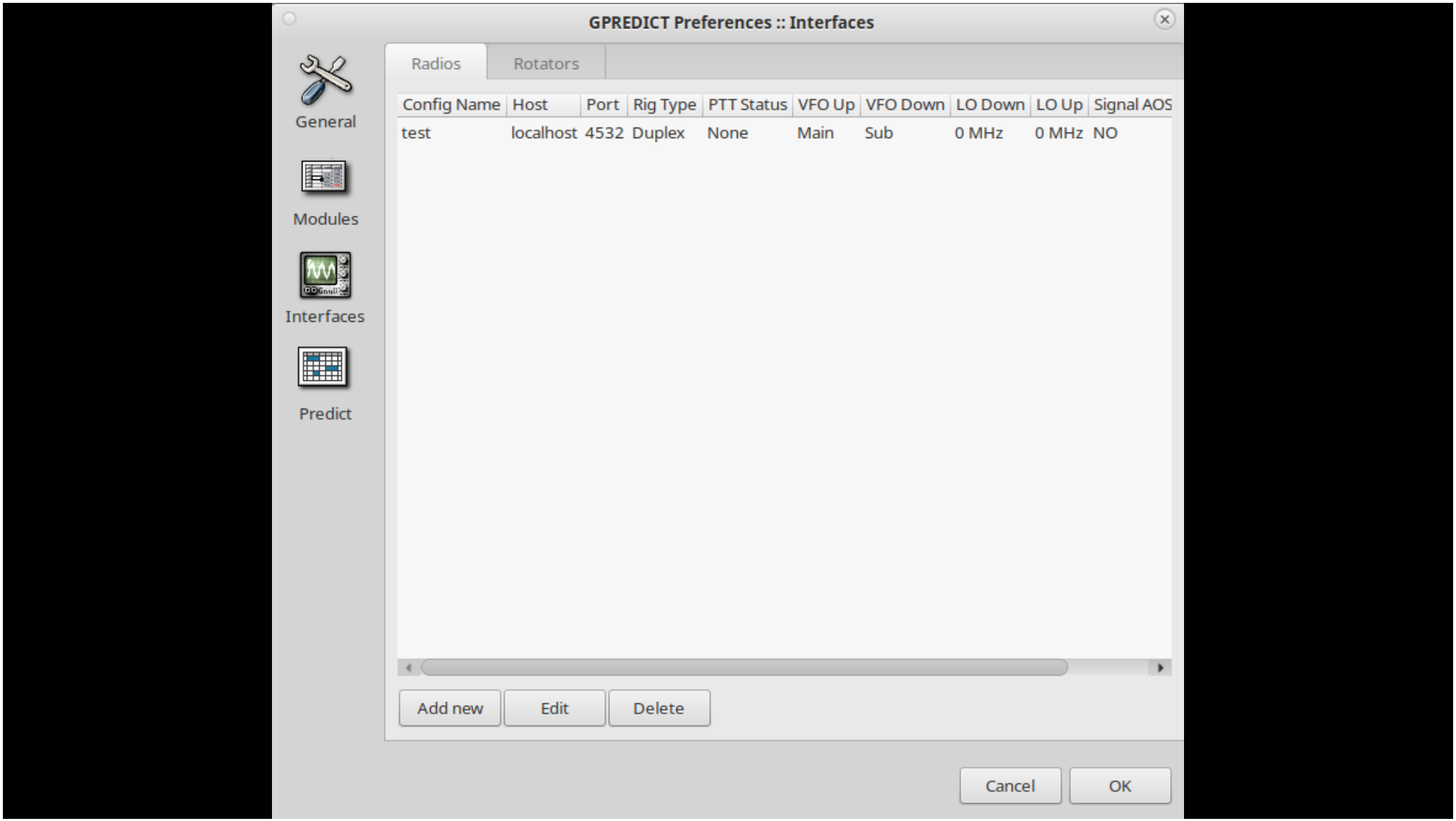
Gpredict is free software licensed under the GNU General Public License. This gives you the freedom to use and modify gpredict to suit your needs. Gpredict is available as source package as well as precompiled binaries available via third parties.

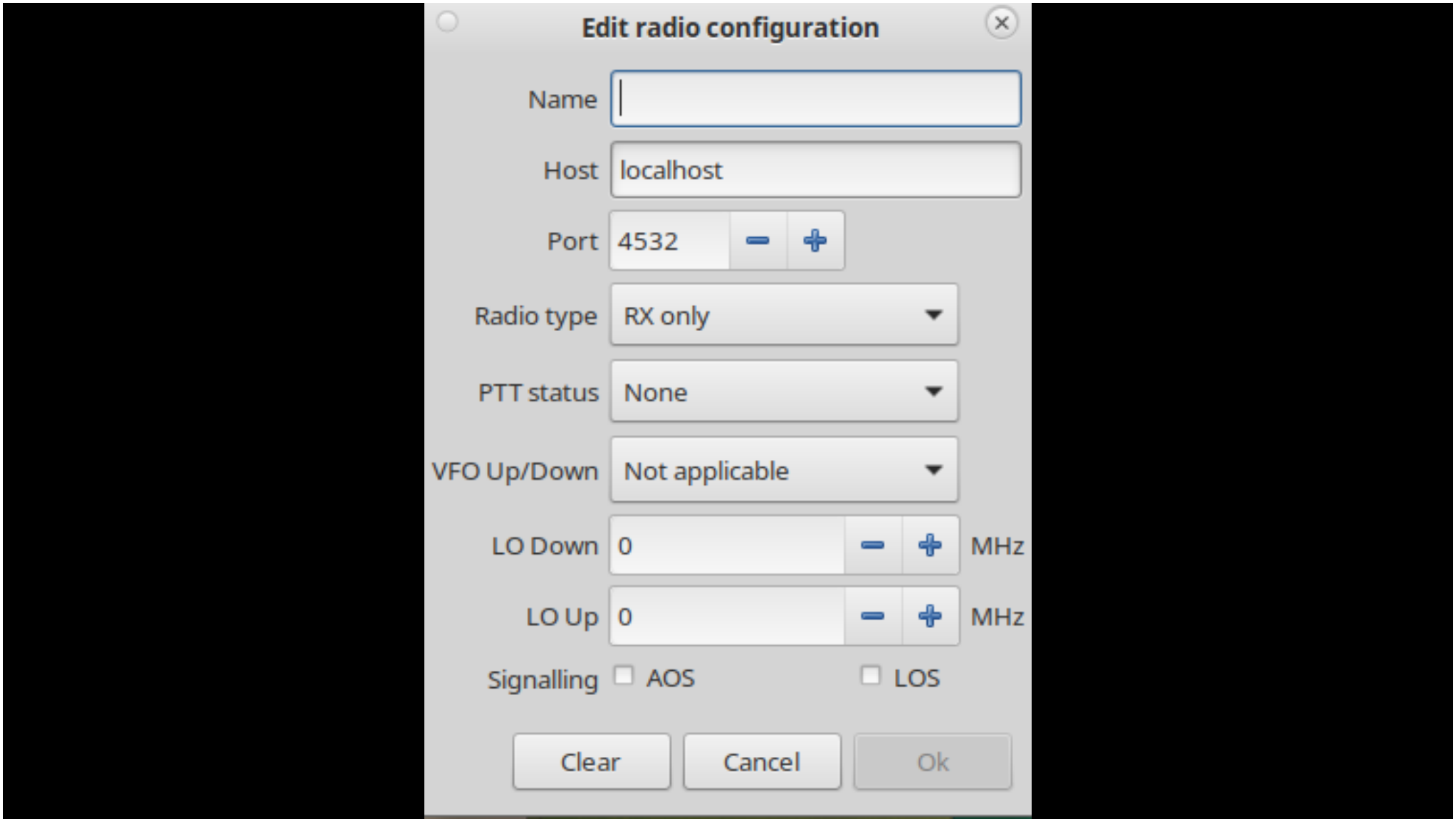


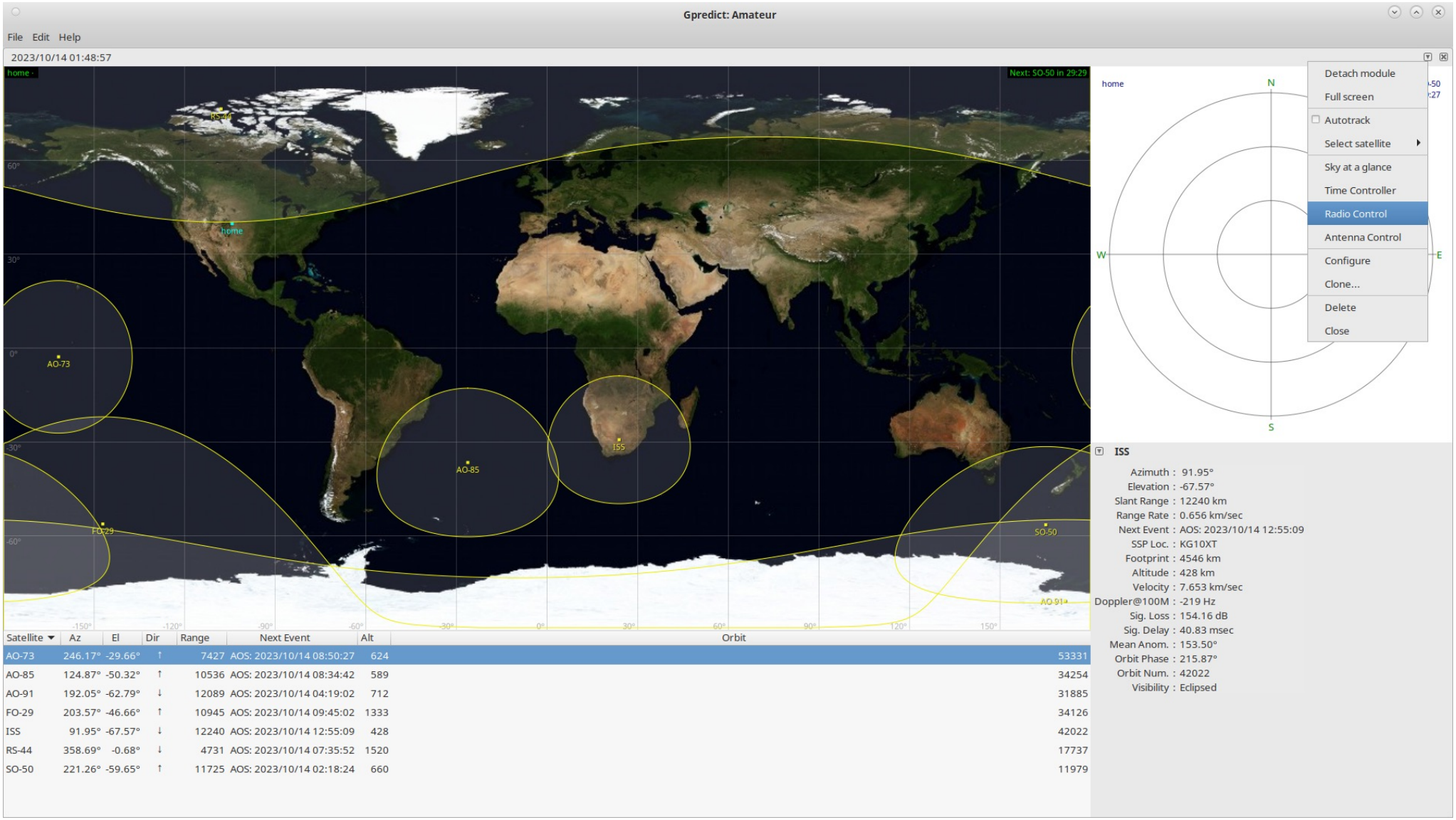
Satellite	Az	El	Dir	Range	Next Event	Alt	Orbit
AO-73	251.93°	-27.69°	↑	7102	AOS: 2023/10/14 08:50:27	626	53332
AO-85	118.71°	-49.74°	↑	10445	AOS: 2023/10/14 08:34:42	575	34254
AO-91	198.19°	-64.91°	↓	12270	AOS: 2023/10/14 04:19:02	696	31885
FO-29	207.73°	-44.71°	↑	10673	AOS: 2023/10/14 09:45:02	1324	34126
ISS	83.00°	-68.16°	↓	12290	AOS: 2023/10/14 12:55:08	426	42022
RS-44	3.38°	-4.51°	↓	5188	AOS: 2023/10/14 07:35:52	1522	17737
SO-50	223.14°	-56.59°	↑	11392	AOS: 2023/10/14 02:18:24	662	11979


GPREDICT Preferences :: General
General
Modules
Interfaces
Predict
Number Formats
Ground Stations
TLE Update
Message Logs
Name
Location
Lat
Lon
Alt (m)
QRA
Default
home
39.7454°
-104.3180°
1600
DM79UR
Add new
Edit
Delete
Cancel
OK

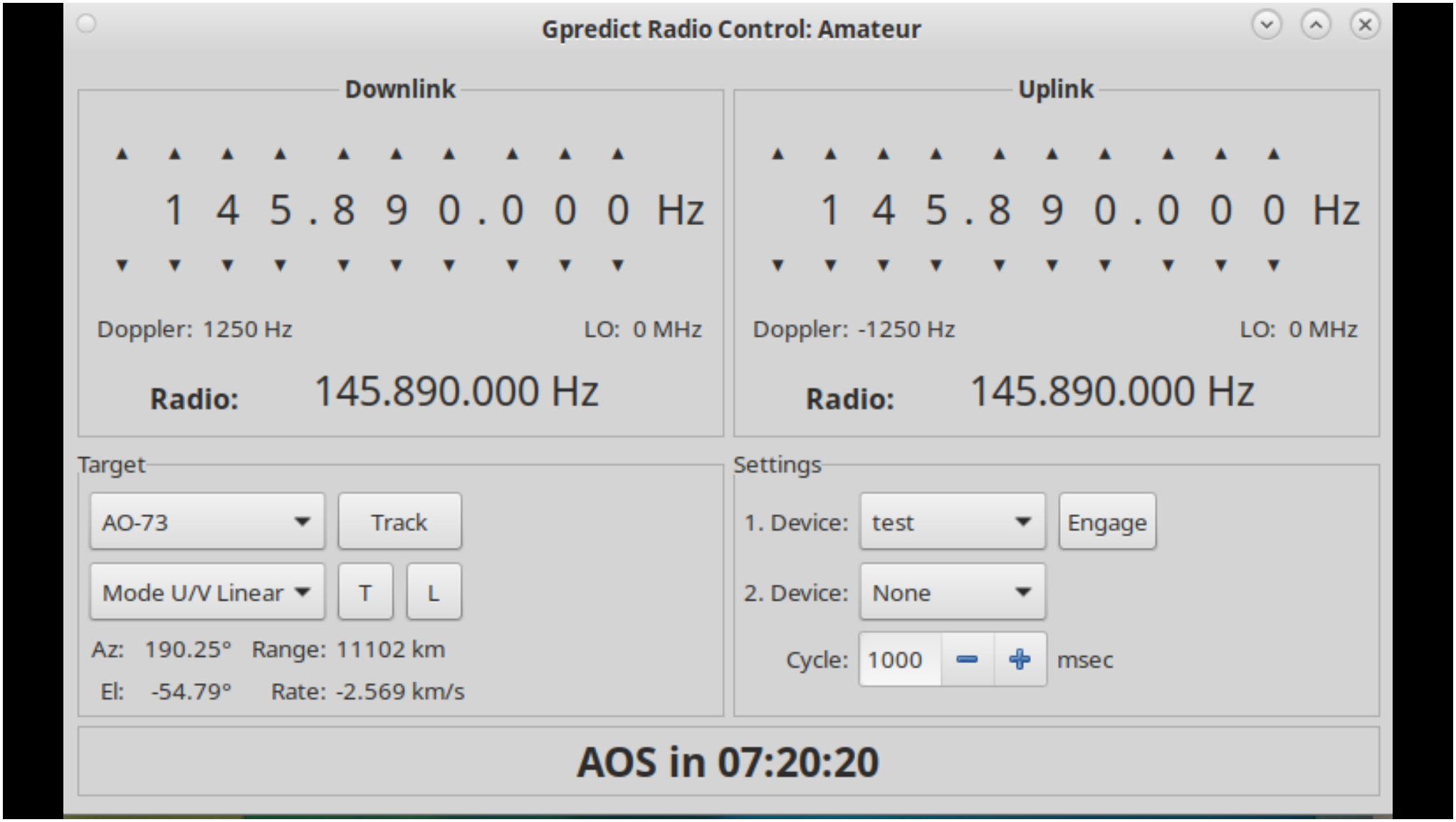

Edit ground station data
Name
Description
Location
Select
Latitude (°)
0.0000
North
Longitude (°)
0.0000
East
Locator
Altitude
0
m ASL
Weather St
Select
Clear
Cancel
OK

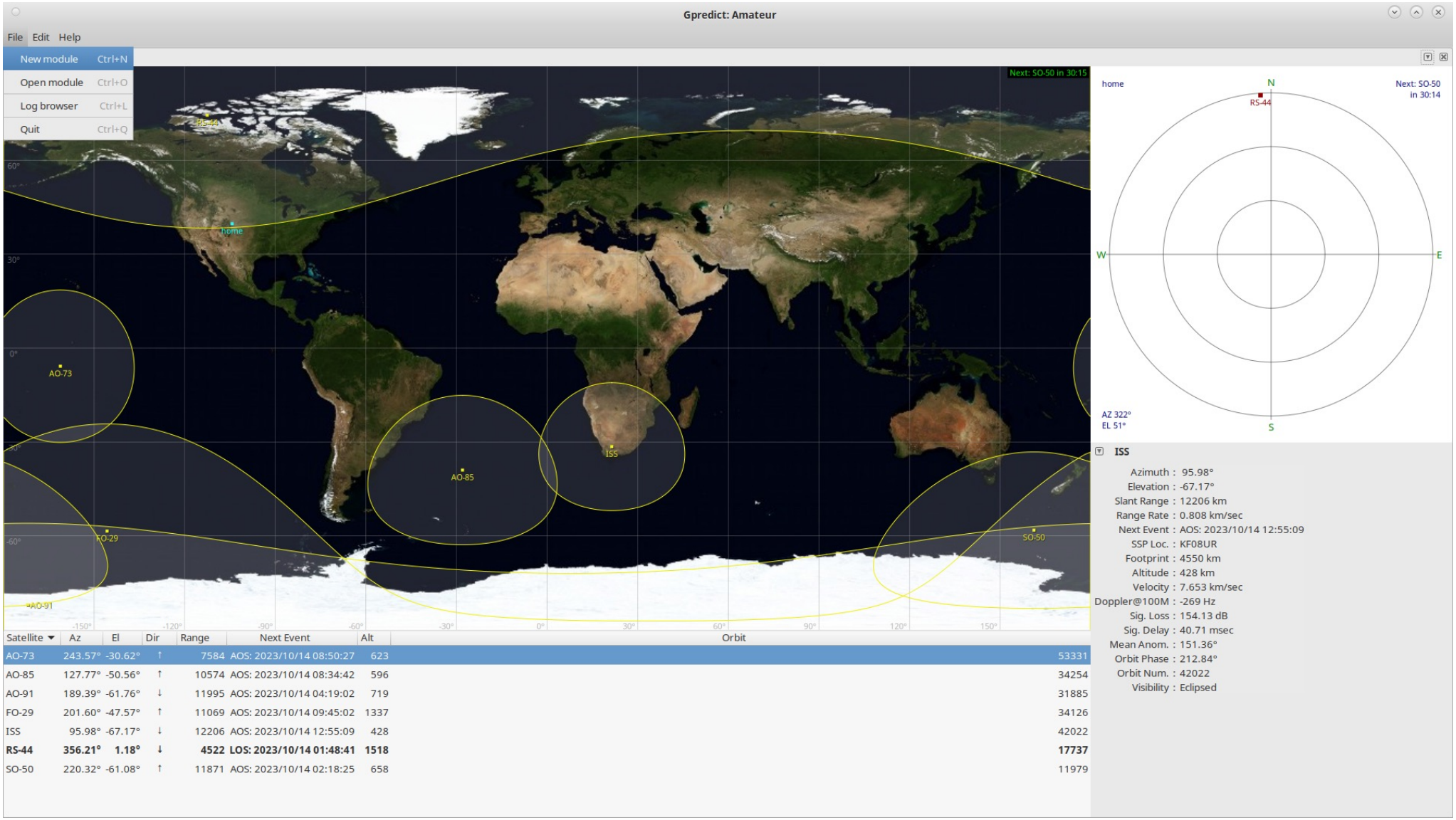

GPREDICT Preferences :: Interfaces
General
Modules
Interfaces
Predict
Radios
Rotators
Config Name
Host
Port
Rig Type
PTT Status
VFO Up
VFO Down
LO Down
LO Up
Signal AOS
test
localhost
4532
Duplex
None
Main
Sub
0 MHz
0 MHz
NO
Add new
Edit
Delete
Cancel
OK


Edit radio configuration
Name
Host
localhost
Port
4532
Radio type
RX only
PTT status
None
VFO Up/Down
Not applicable
LO Down
0
MHz
LO Up
0
MHz
Signalling
AOS
LOS
Clear
Cancel
Ok

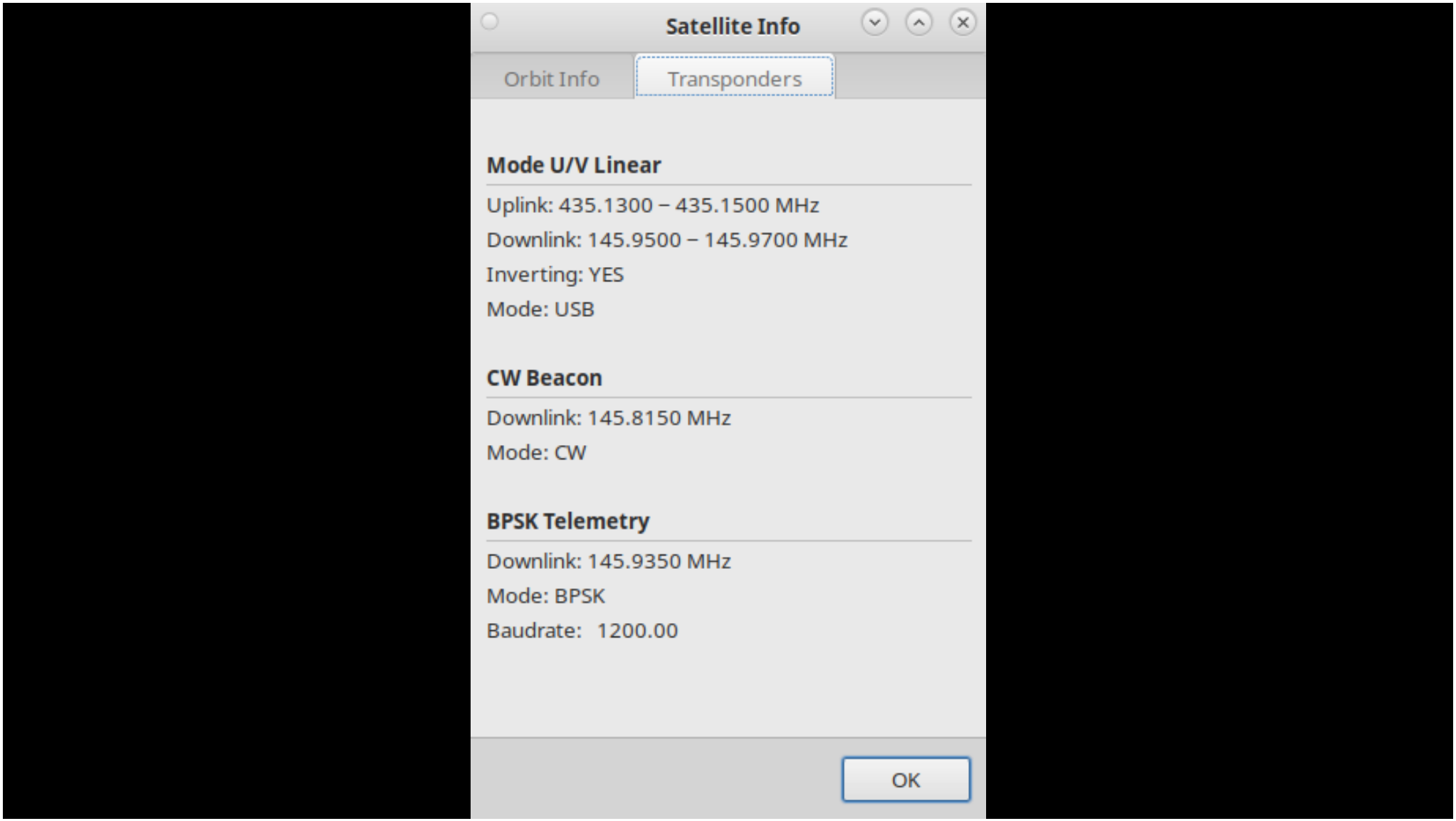


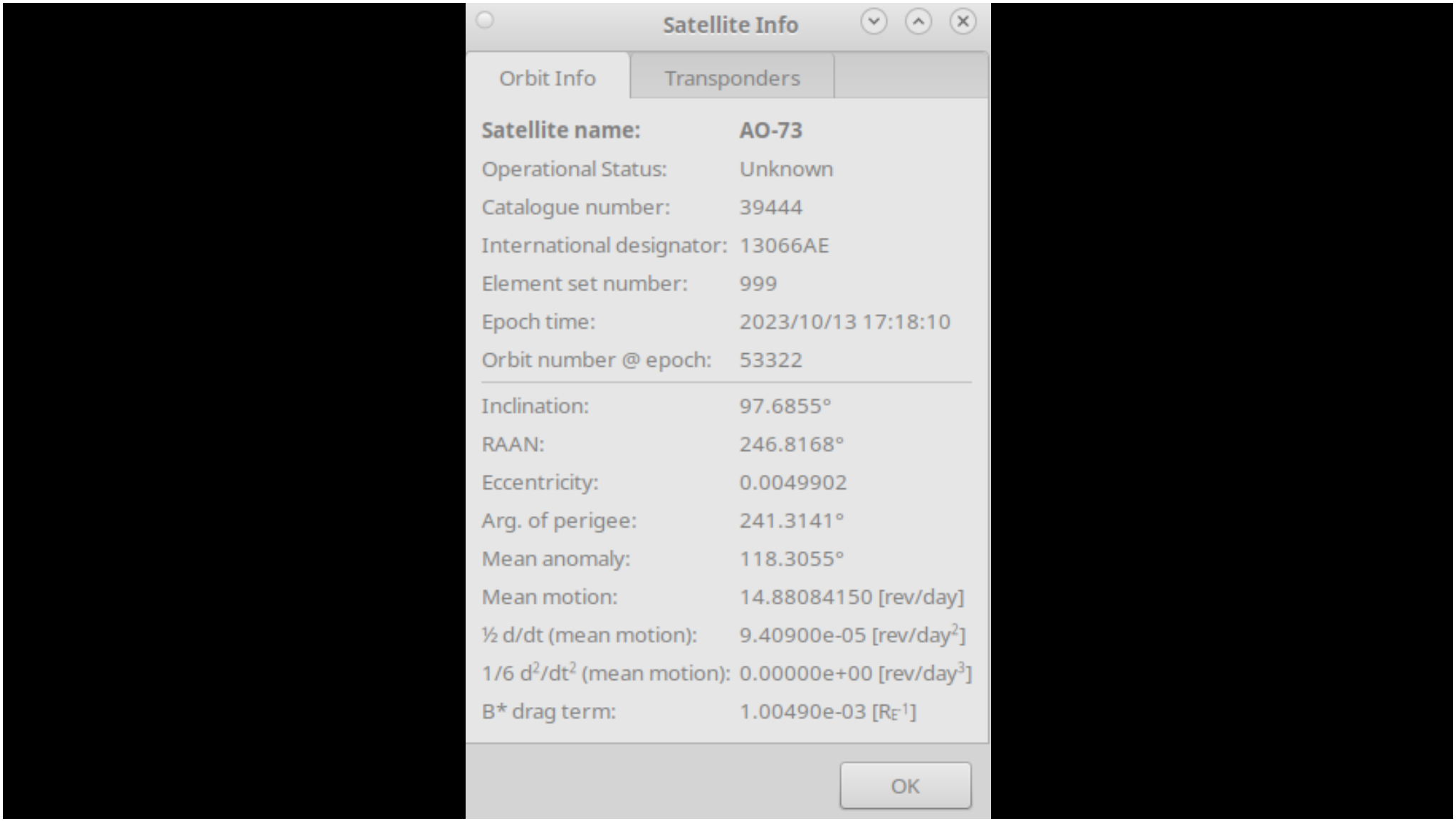
Satellite	Az	El	Dir	Range	Next Event	Alt	Orbit
AO-73	246.17°	-29.66°	↑	7427	AOS: 2023/10/14 08:50:27	624	53331
AO-85	124.87°	-50.32°	↑	10536	AOS: 2023/10/14 08:34:42	589	34254
AO-91	192.05°	-62.79°	↓	12089	AOS: 2023/10/14 04:19:02	712	31885
FO-29	203.57°	-46.66°	↑	10945	AOS: 2023/10/14 09:45:02	1333	34126
ISS	91.95°	-67.57°	↓	12240	AOS: 2023/10/14 12:55:09	428	42022
RS-44	358.69°	-0.68°	↓	4731	AOS: 2023/10/14 07:35:52	1520	17737
SO-50	221.26°	-59.65°	↑	11725	AOS: 2023/10/14 02:18:24	660	11979

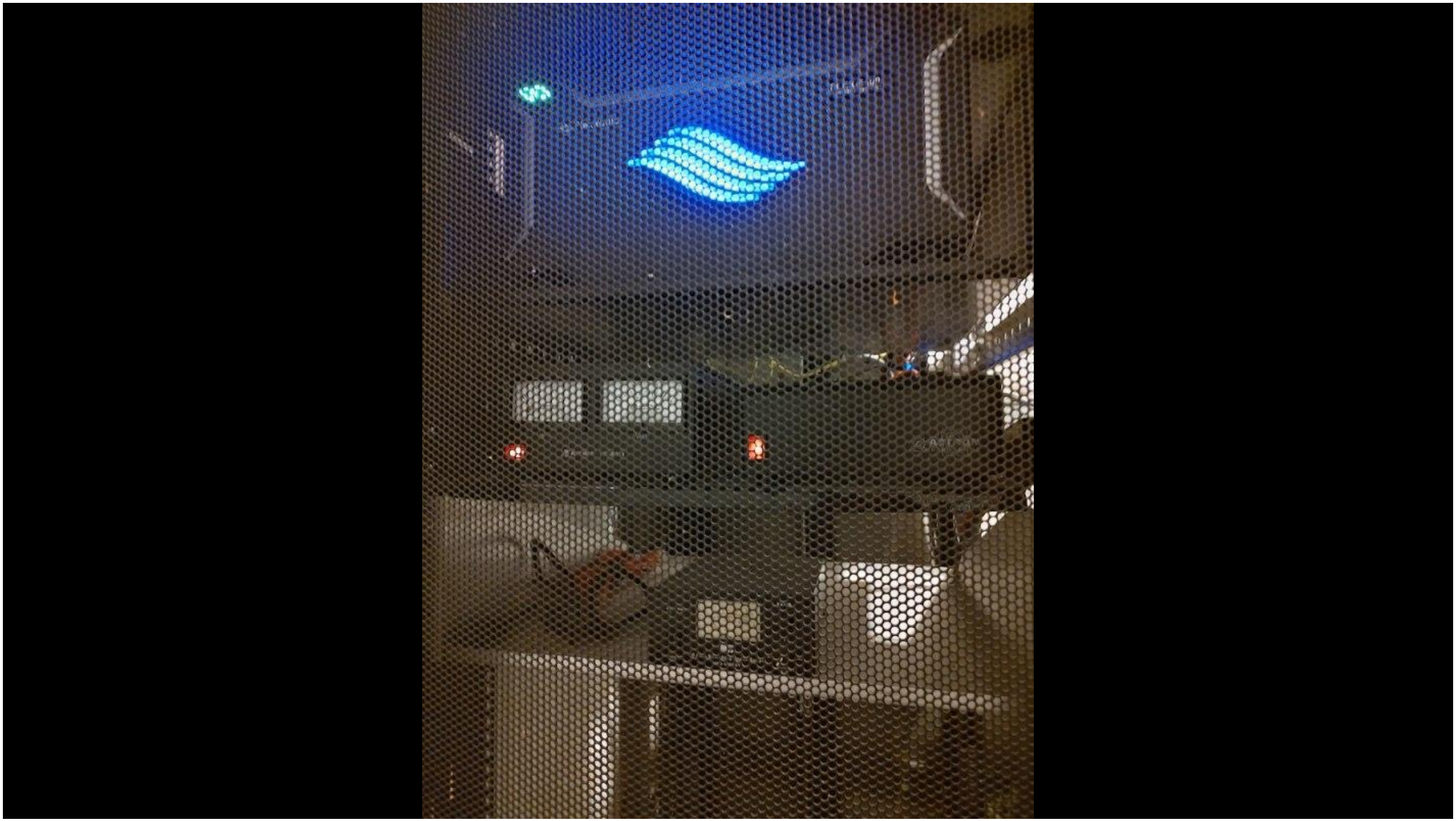

Gpredict Radio Control: Amateur
Downlink
145.890.000 Hz
Doppler: 1250 Hz
LO: 0 MHz
Radio: 145.890.000 Hz
Uplink
145.890.000 Hz
Doppler: -1250 Hz
LO: 0 MHz
Radio: 145.890.000 Hz
Target
AO-73
Track
Mode U/V Linear
T
L
Az: 190.25° Range: 11102 km
El: -54.79° Rate: -2.569 km/s
Settings
1. Device: test
Engage
2. Device: None
Cycle: 1000
msec
AOS in 07:20:20

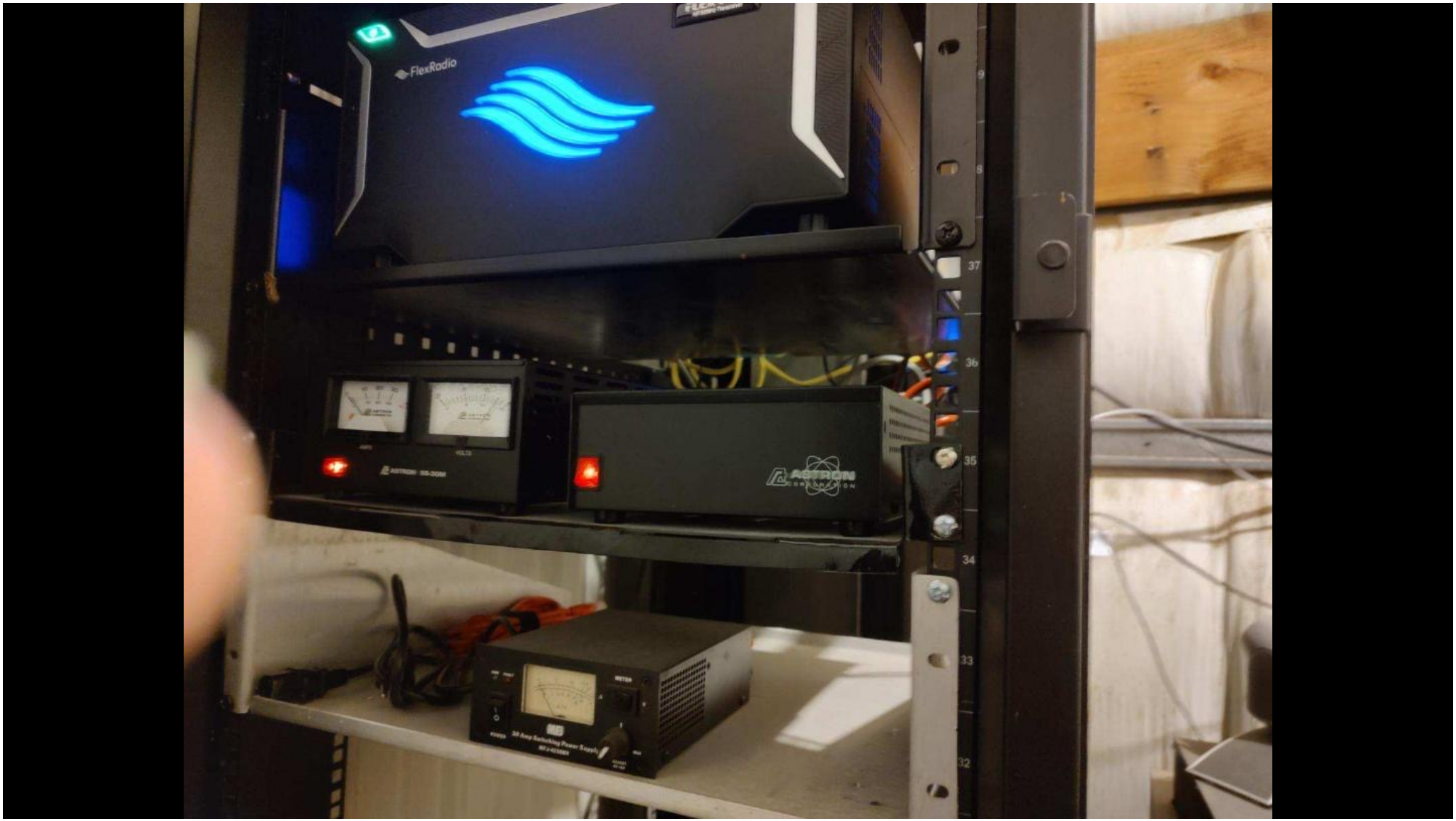


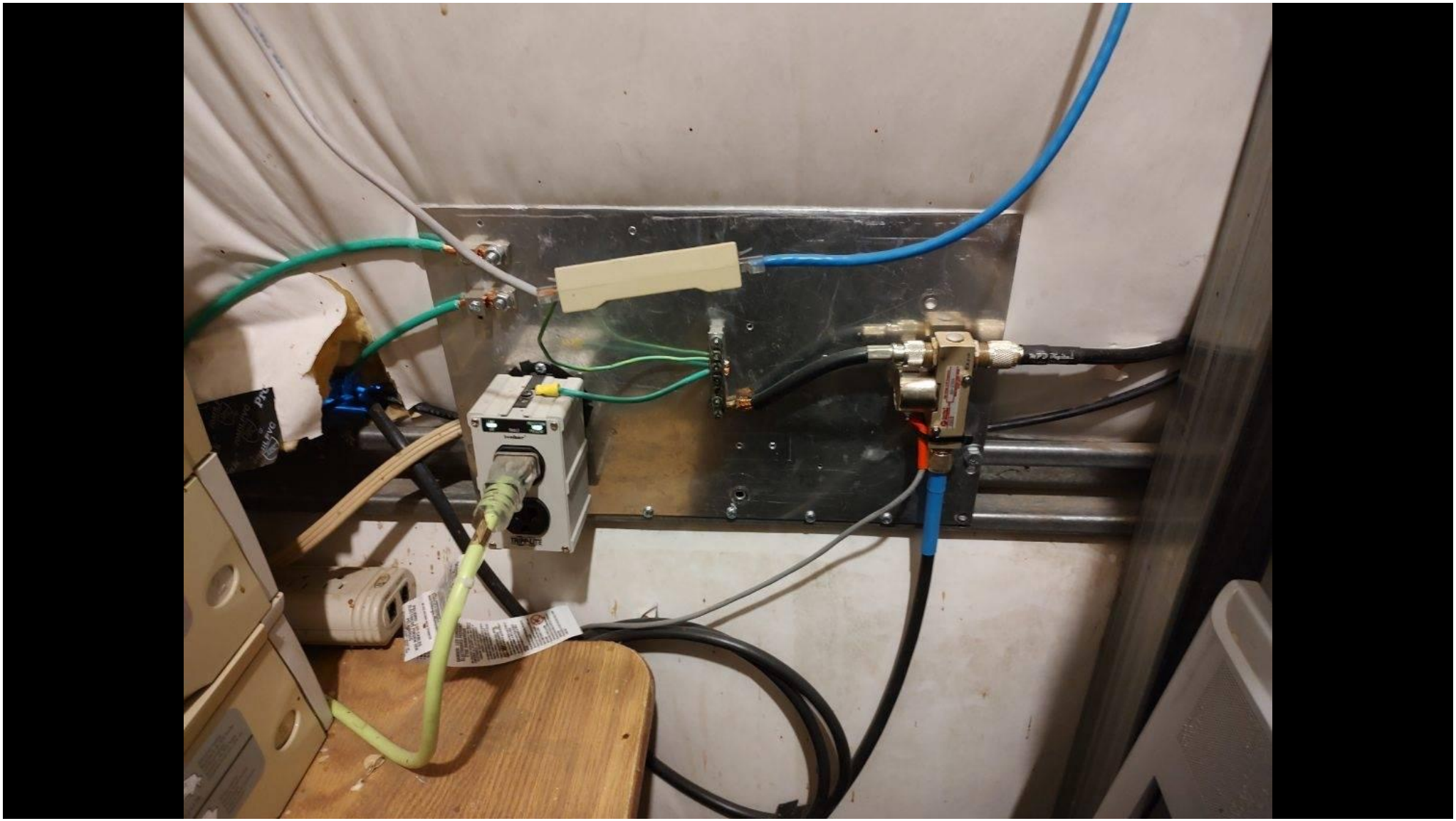
Satellite	Az	El	Dir	Range	Next Event	Alt	Orbit
AO-73	243.57°	-30.62°	↑	7584	AOS: 2023/10/14 08:50:27	623	53331
AO-85	127.77°	-50.56°	↑	10574	AOS: 2023/10/14 08:34:42	596	34254
AO-91	189.39°	-61.76°	↓	11995	AOS: 2023/10/14 04:19:02	719	31885
FO-29	201.60°	-47.57°	↑	11069	AOS: 2023/10/14 09:45:02	1337	34126
ISS	95.98°	-67.17°	↓	12206	AOS: 2023/10/14 12:55:09	428	42022
RS-44	**356.21°**	**1.18°**	↓	**4522**	**LOS: 2023/10/14 01:48:41**	**1518**	**17737**
SO-50	220.32°	-61.08°	↑	11871	AOS: 2023/10/14 02:18:25	658	11979


Satellite Info
Orbit Info
Transponders
Mode U/V Linear
Uplink: 435.1300 – 435.1500 MHz
Downlink: 145.9500 – 145.9700 MHz
Inverting: YES
Mode: USB
CW Beacon
Downlink: 145.8150 MHz
Mode: CW
BPSK Telemetry
Downlink: 145.9350 MHz
Mode: BPSK
Baudrate: 1200.00
OK

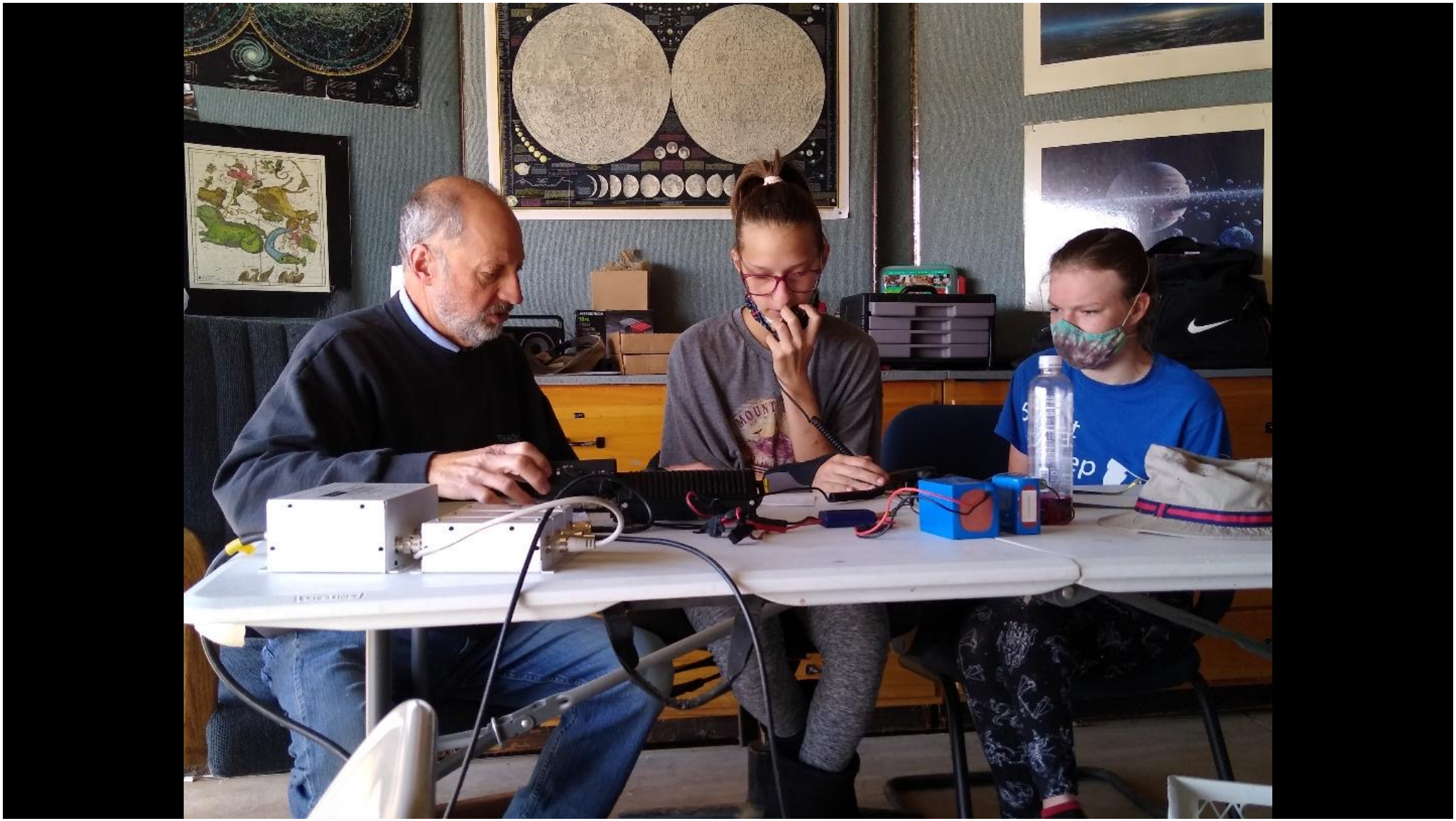

Satellite Info
Orbit Info
Transponders
Satellite name: AO-73
Operational Status: Unknown
Catalogue number: 39444
International designator: 13066AE
Element set number: 999
Epoch time: 2023/10/13 17:18:10
Orbit number @ epoch: 53322
Inclination: 97.6855°
RAAN: 246.8168°
Eccentricity: 0.0049902
Arg. of perigee: 241.3141°
Mean anomaly: 118.3055°
Mean motion: 14.88084150 [rev/day]
½ d/dt (mean motion): 9.40900e-05 [rev/day²]
1/6 d²/dt² (mean motion): 0.00000e+00 [rev/day³]
B* drag term: 1.00490e-03 [R_E⁻¹]
OK

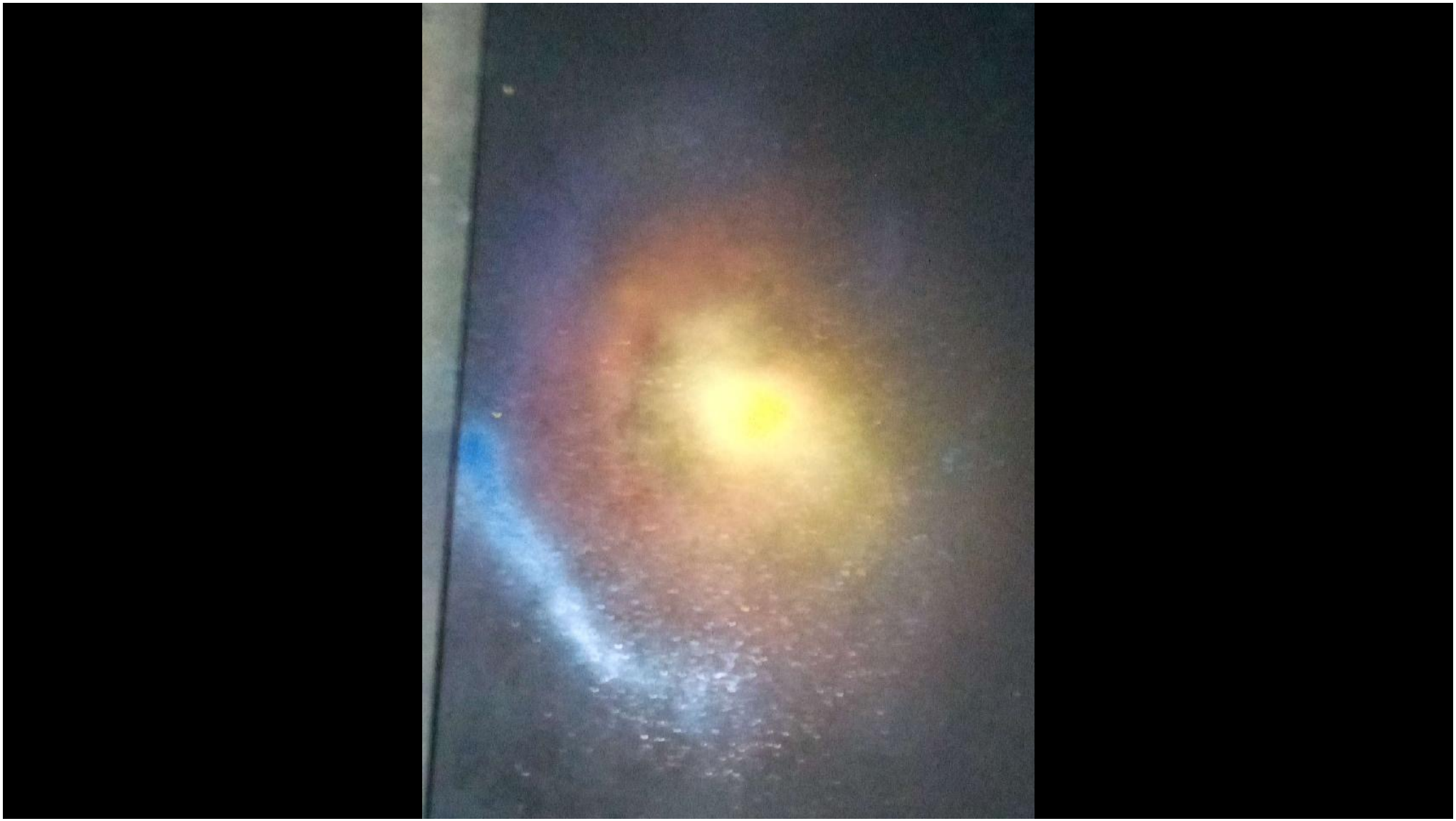


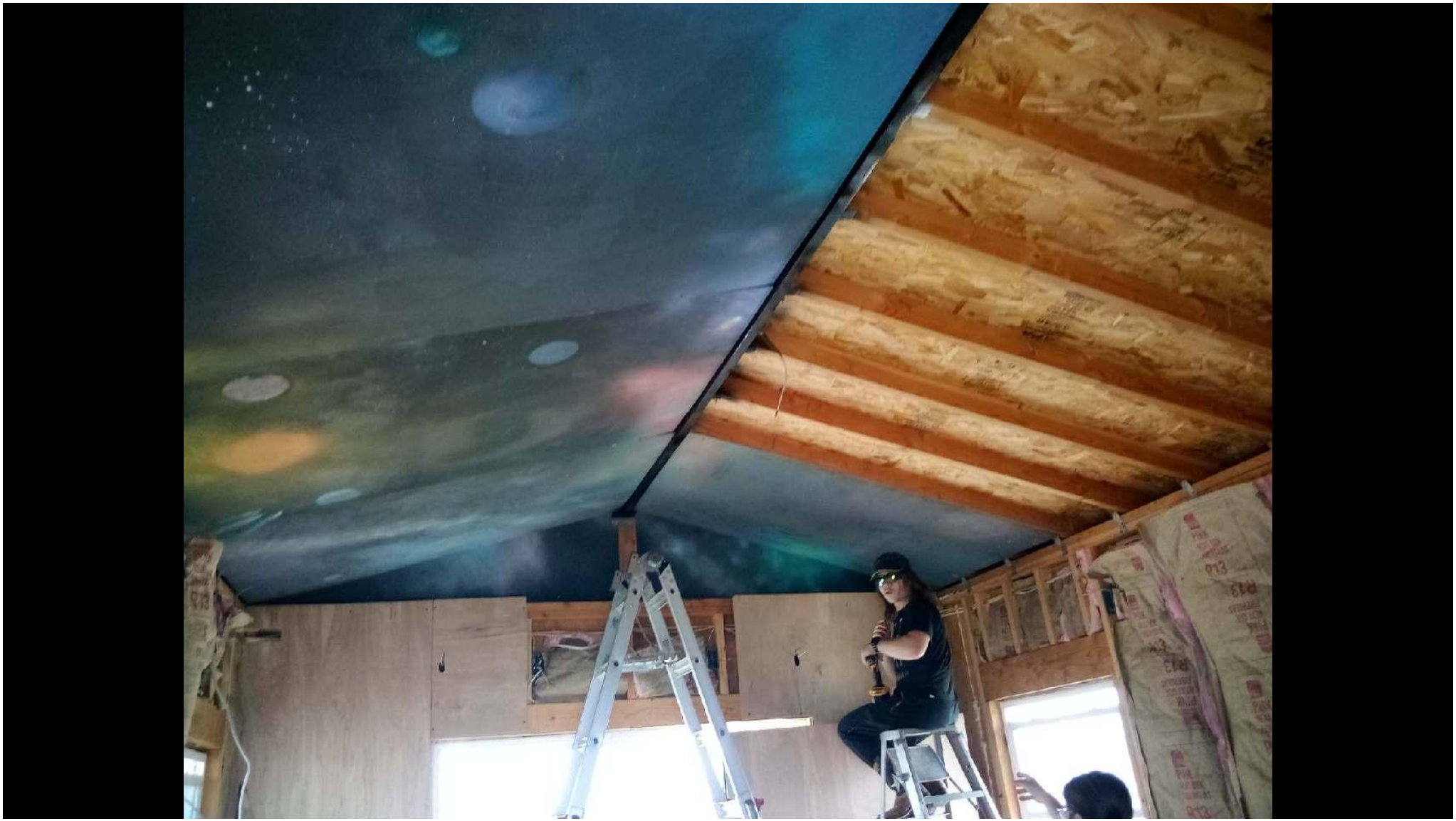

FlexRadio
ASTRON
ASTRON CORPORATION
37
36
35
34
33
32




JETSTREAM
Switching Power Supply
JTPS28M
CURRENT
VOLTAGE
PWR
FAN
ON
OFF
DC Adjust
146.520





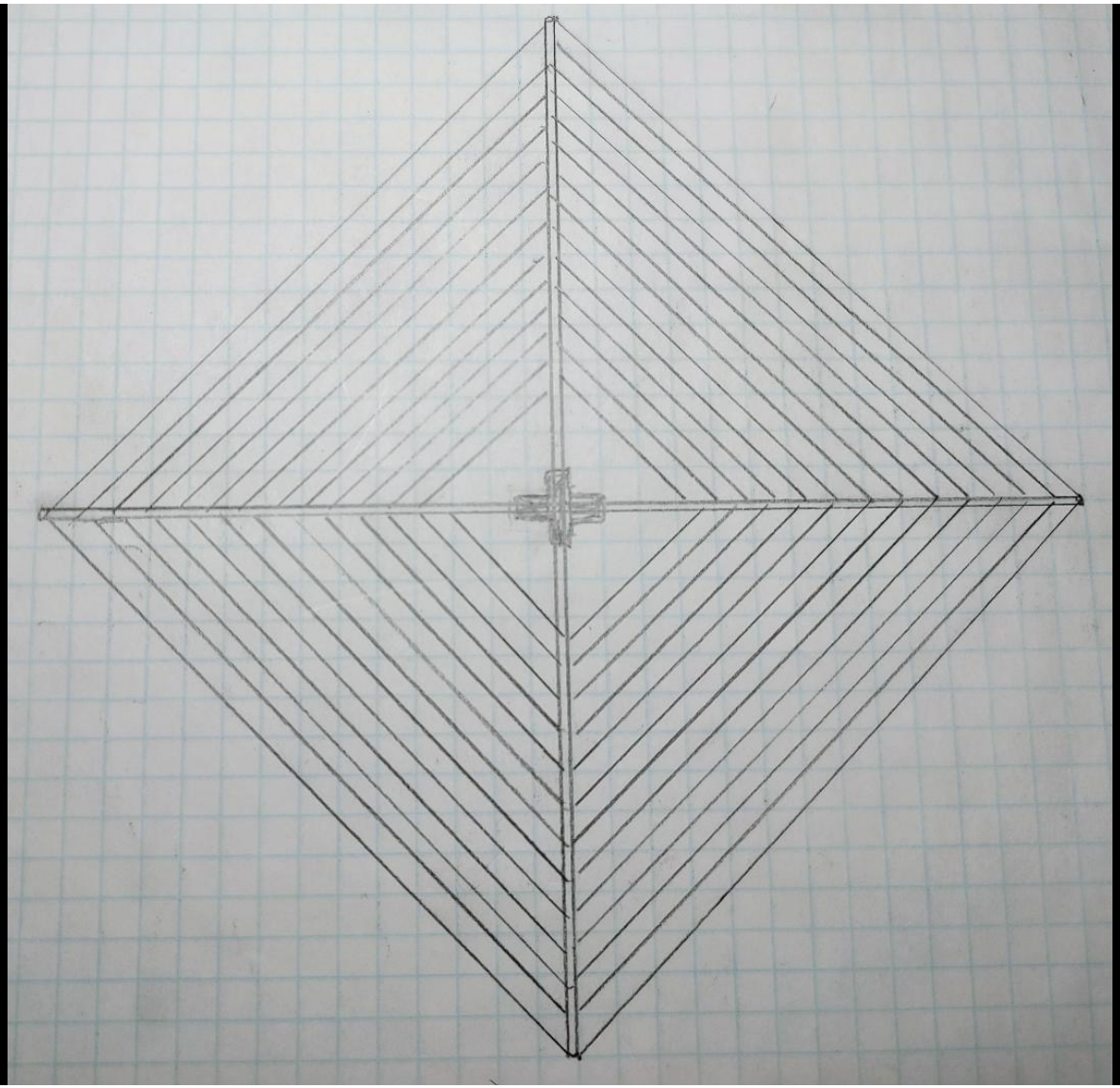


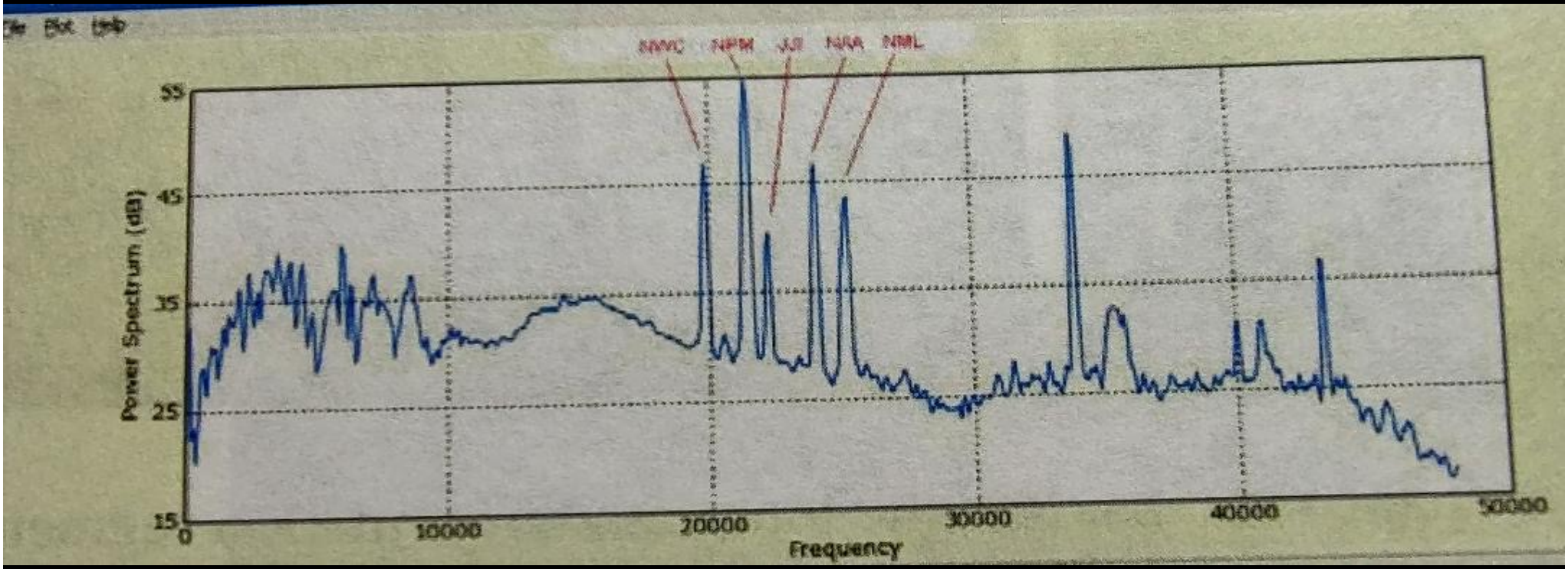

R13

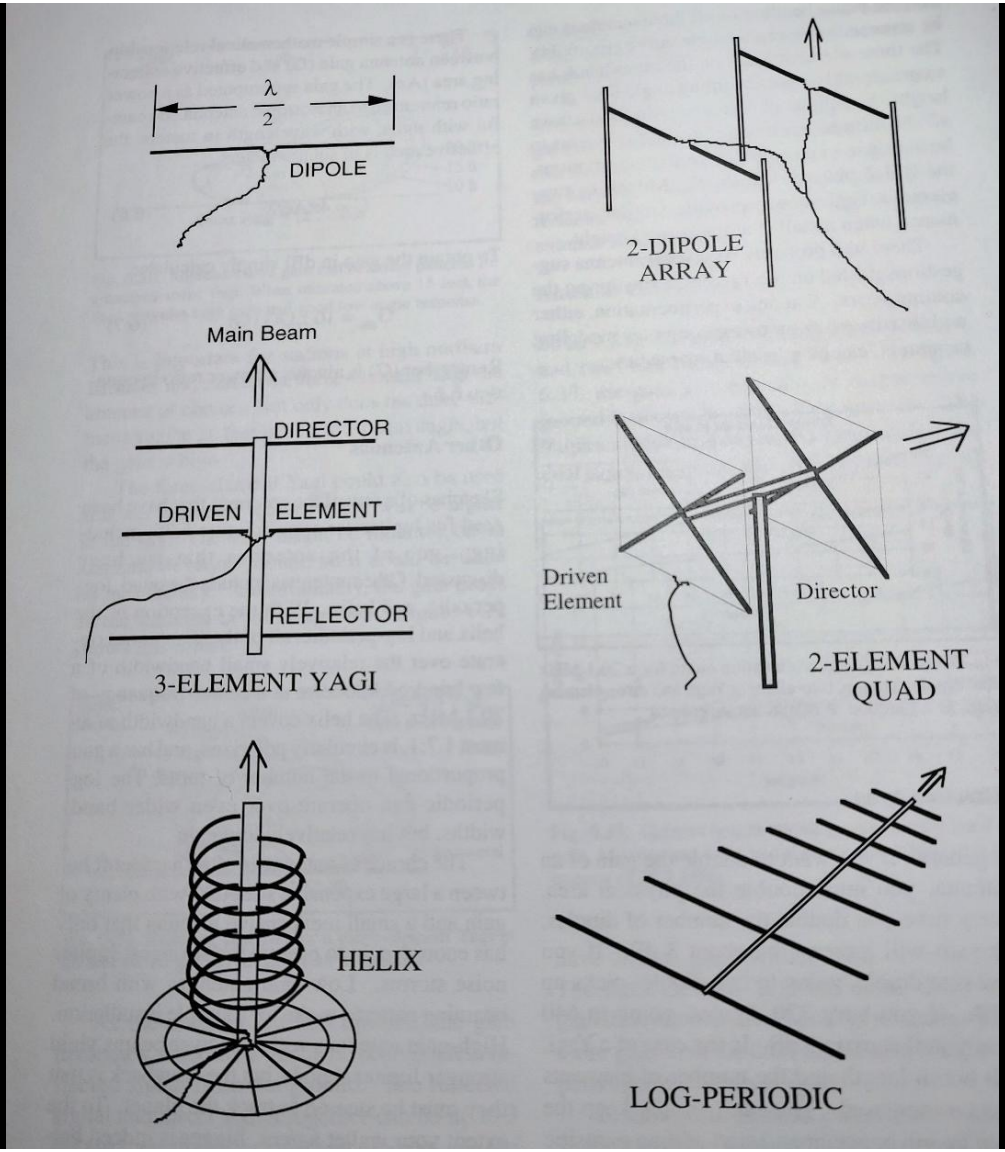

APA
32/16
EXTERIOR 19/32 CAT CUSTOM GRADE

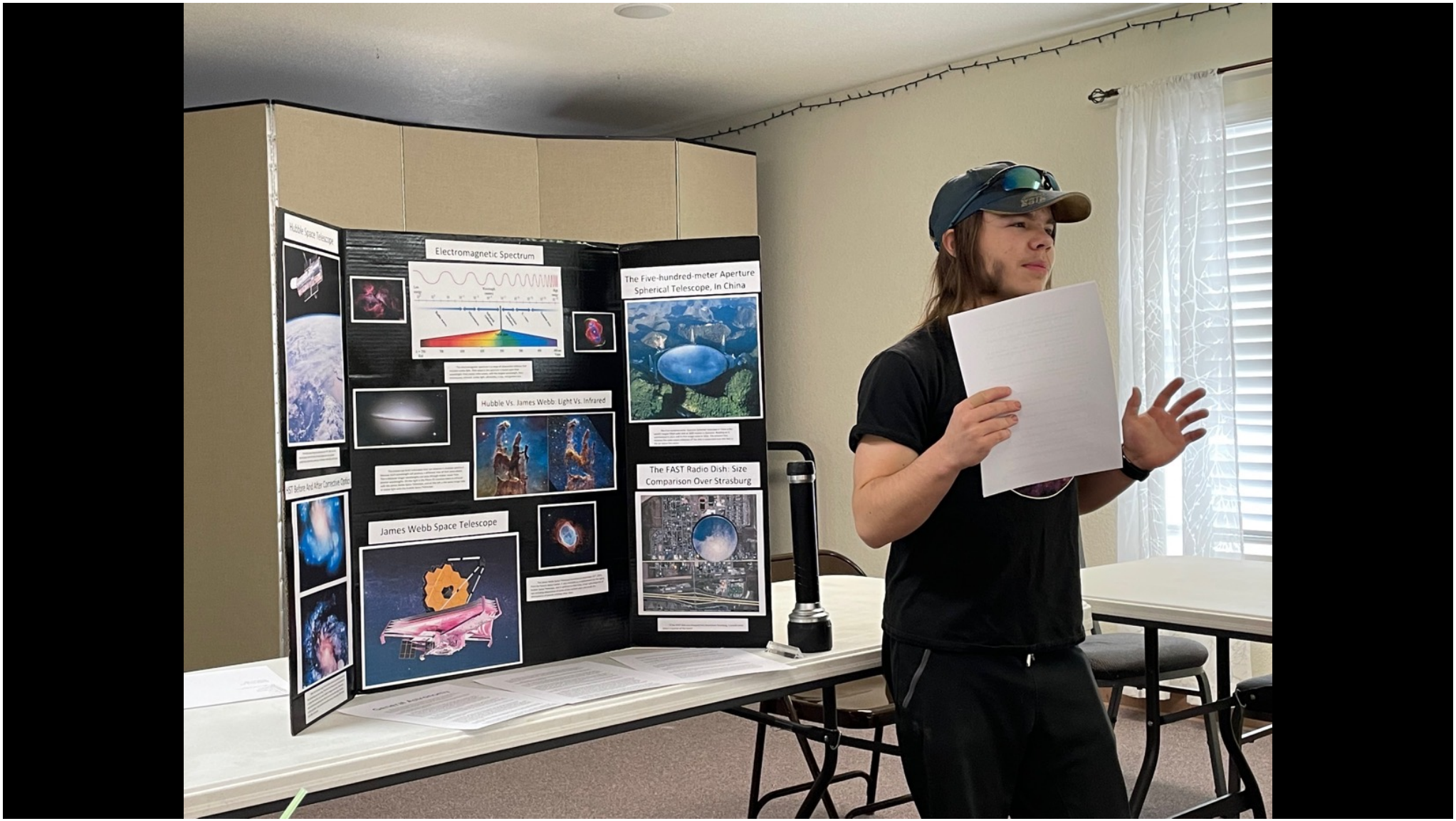

NASA

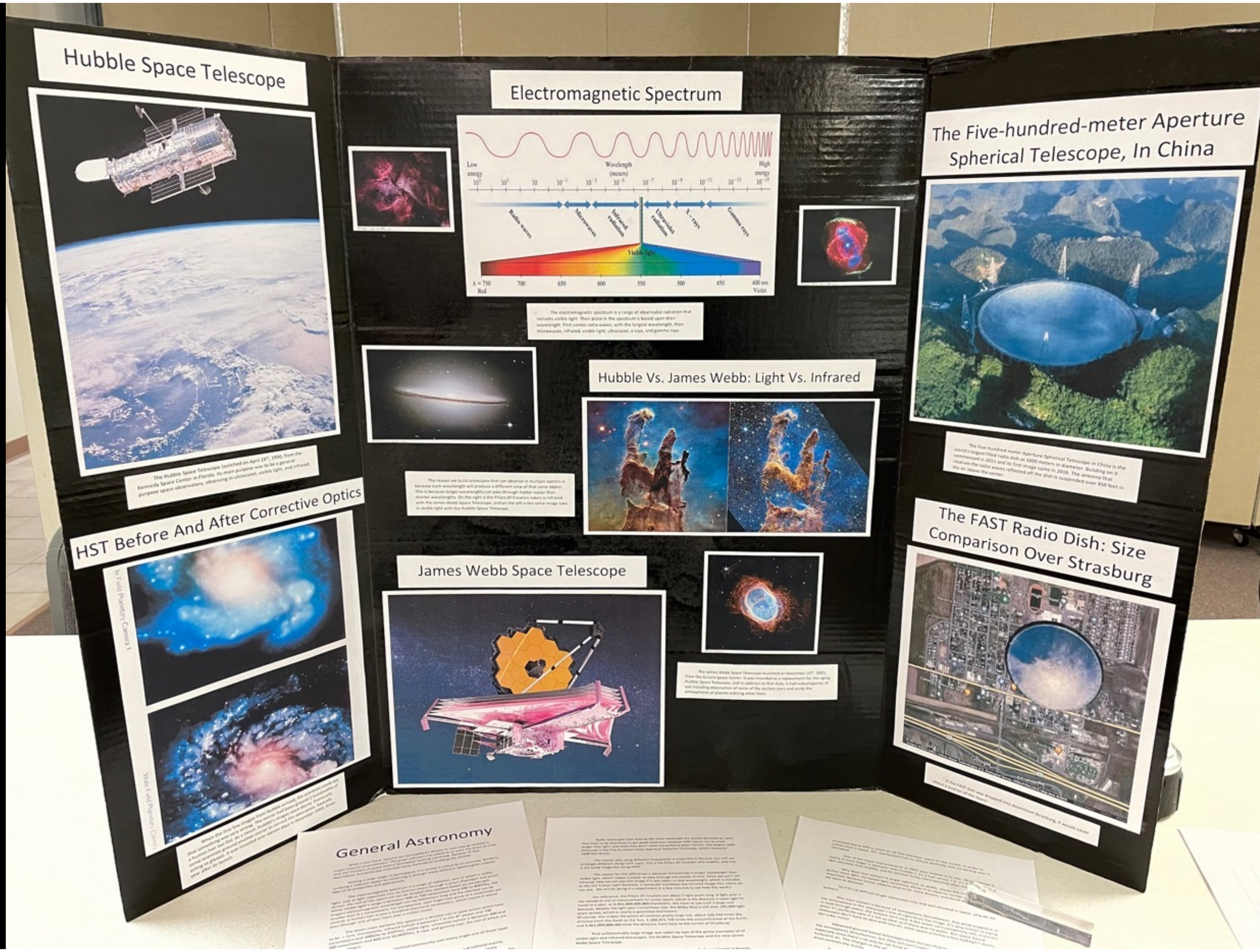

TEAC A-3300SX




Power Spectrum (dB)
55
45
35
25
15
0
10000
20000
30000
40000
50000
Frequency


λ/2
DIPOLE
2-DIPOLE ARRAY
Main Beam
DIRECTOR
DRIVEN ELEMENT
REFLECTOR
3-ELEMENT YAGI
Driven Element
Director
2-ELEMENT QUAD
HELIX
LOG-PERIODIC


Hubble Space Telescope
Electromagnetic Spectrum
The Five-hundred-meter Aperture Spherical Telescope, In China
Hubble Vs. James Webb: Light Vs. Infrared
FAST Before And After Corrective Optics
The FAST Radio Dish: Size Comparison Over Strasburg
James Webb Space Telescope


Hubble Space Telescope
Electromagnetic Spectrum
Low energy
Wavelength (meters)
High energy
Radio waves
Microwaves
Infrared radiation
Visible light
Ultraviolet radiation
X-rays
Gamma rays
The Five-hundred-meter Aperture Spherical Telescope, In China
Hubble Vs. James Webb: Light Vs. Infrared
HST Before And After Corrective Optics
James Webb Space Telescope
The FAST Radio Dish: Size Comparison Over Strasburg
General Astronomy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