T-REX 2025 DATES | JULY 25th, 26th, & 27th

AmRRON BEACON

March 14, 2025 / Vol 16

In this issue:

"But if you indeed obey His voice and do all that I speak, then I will be an enemy to your enemies and an adversary to your adversaries.

Exodus 23:22

From AmRRON Headquarters

CQ CQ AmRRON!

Greetings patriot radio operators!

This edition of the Beacon is a little light, but be sure to catch the next on (April 2nd), as it will be packed full of information.

See the T-REX dates in bright red at the top of the page? Make a note of it.

A lot of positive changes are coming for AmRRON in 2025, and you'll begin seeing those, and the announcements, in the April AmRRON Beacon.

Don't forget to add the Forward Observer "National Intelligence Bulletin" (FONIB) to you comms calendar, each Friday evening at 7pm (Local) in each time zone on 7.110 USB.

It is common for the 40m band to be "long" at that time of evening, so you'll often find that you'll receive a better copy from an adjacent region (time zone). Take note of what stations you receive the best copy from during the scheduled transmission times.

Many of you who listen to Radio Free Redoubt and the Morning Commute may know that we have discontinued the Morning Commute radio show. However, Lady Liberty is now on Youtube and is off to a great start with her new channel, "***The Word of the Day, with Rene' Holaday***." Please subscribe, like, and SHARE with your fellow like minded Christian patriots!

See you on the air!

God bless, and 73 everyone!

-JJS

RADIO NEWS

...AND OTHER COMMS RELATED ITEMS OF INTEREST

ISSUE 16 | 03/14/2025

RADIO FREE EUROPE, VOICE OF AMERICA, RADIO LIBERTY PURGED AFTER DECADES OF BEING HIJACKED

Soon after President Trump came into office in January, calls for shutting down or defunding the US Government funded icons of Voice of America, Radio Free Europe, Radio Free Asia, and Radio Liberty broadcasting spread across the internet like fire.

Elon Musk was one of the first and most outspoken advocates for the move,, posting on X on Feb. 9 to “shut them down.” Musk wrote that “nobody listens to them anymore” and that it’s “just radical left crazy people talking to themselves while torching” taxpayer money.

Radio Free Europe, Radio Liberty, and Voice of America was the inspiration for the podcast Radio Free Redoubt, shadowing the long tradition of speading a message of freedom and resisting tyranny, from the free zones, across the wire to citizens oppressed by socialism and woke policies.

Sadly, over the past several decades, those beacons of freedom have been infiltrated by Marxists and globalists, and have subverted the original intent of those broadcasting mediums. Those platforms, while in their beginnings broadcasted messages to citizens living under Nazi German socialism, or behind the Iron Curtain under Soviet Communist rule, have drifted to the point they have become the voices of propaganda supporting the very thing they started off speaking against.

New Life Breathed Into the Airwaves

Fortunately, President Trump apparently has a better idea. Instead of killing the patient, give it new life and revive it, restoring it back to health.

Conservative firebrand and veteran news anchor Kari Lake has been tasked by the Trump Administration with heading up Voice of America. It’s a good start!

Lake stated "I am committed to quickly reforming and modernizing the agency into something the American people are willing to support," she wrote.

MORE HEADLINES

MUSK SAYS IP ADDRESSES FROM CYBER ATTACK WERE FROM UKRAINE

Souce: The Post Millenial | March 10th

The “X” site experienced intermittent outages on Monday after a "massive cyberattack," Musk said, with users not being able to access various features of the popular social media platform owned by Elon Musk.

Musk wrote on Monday afternoon, "There was (still is) a massive cyberattack against X. We get attacked every day, but this was done with a lot of resources. Either a large, coordinated group and/or a country is involved. Tracing..."

According to Newsweek, the hacker group known as "Dark Storm" took credit for the DDoS attack on the popular social media platform.

U.S. SATELLITE MAPPING COMPANY MAXAR TECHNOLOGIES BLOCKS UKRAINE'S ACCESS TO IMAGERY, IN A RENEWED BLOW TO KIEV'S WAR EFFORT

Source: Gateway Pundit | RT reported:

“The [Ukrainian] outlet noted that the limit appears to apply to both government and private users, adding that the request cited by the company likely refers to US President Donald Trump’s order to cease all intelligence sharing with Ukraine.

Maxar, according to Militarnyi, has been one of the leading providers of high-resolution commercial satellite imagery to Ukraine’s armed forces who used it to track the movements of Russian troops, assess battlefield conditions and damage to key infrastructure. The US company has not yet confirmed the alleged restriction of services.”

SIGINT

Automated Signal Monitoring

By 'Anonymous' - *The AmRRON Corps operator who authored the following article asked to be published as anonymous*

Today's communications environment is more complicated and rich that most care to consider. AmRRON operators are attuned, so to speak, to the fact that we are constantly bombarded by wireless signals from space, across the globe, and even down the block in our neighborhoods. We accept with little thought the natural rhythms affecting HF propagation – at least until solar storms throw us curves balls. Being communicators, however, we're among the first to recognize that unexpected changes in signals can be, well, signals themselves. This article describes one operator's approach to automated monitoring of a variety of signals.

Signals intelligence (SIGINT) is an expansive and highly technical field defined simply by the National Security Agency as intelligence derived from electronic signals and systems. Our efforts to monitor wireless signals barely qualify, but are attempts to gain information from the signals. Foremost is that the signal actually exists. That is, it continues to exist and in some expected, routine form.

Short wave listeners and hams are aware of Russian "numbers stations" that broadcast coded messages at the bottom of the HF band between 3 and 6 MHz. They have a long history with a variety of purposes, including the ominous "dead hand" theory that one on 4625 kHz, the Buzzer, signals the continuity of high Soviet/Russian command and control – and that its absence would trigger nuclear retaliatory strikes.

Whether we have the inclination or ability to monitor the Buzzer 24/7, the continuous existence of a signal or a system is at least one bit of SIGINT suggesting all is normal.

Our approach to monitoring wireless systems focuses on the simple existence and apparent normality of a few RF signals.

The heart of our system is a "mini PC" with a powered USB hub, a handful of inexpensive receivers, and some simple antennas. Running Linux, this server uses a host of open source applications to collect, massage, store, and present signals information. Backend processes are presented to the user via web pages and through a home automation software called Home Assistant running on the server. Two other computers – an old laptop and a Raspberry Pi – monitor other systems separately and are not, yet, fully integrated. AmRRON's Persistent Presence Network (PPN) is monitored manually and may never be integrated.

The core server application is a Message Queue Telemetry Transport (MQTT) broker. MQTT is a mature protocol for message sharing. As the name implies, it is particularly suited for telemetry and, in general, small messages. The broker sits between "publishers" of information and "subscribers" simplifying sharing, especially between automated processes. On Linux, Mosquitto is a popular, open-source broker package.

The server's primary client-side application is Home Assistant (HA), a home automation world in itself, that brings three crucial features to our SIGINT station: 1) A relatively simple and extensible user interface; 2) robust support for a variety of wireless sensors; and 3) solid MQTT integration. We use HA for a variety of home monitoring and automation tasks, so it was a natural choice for the front end.

Let's look at the simplest signals gathering process here first. An inexpensive GPS receiver feeds a standard Linux daemon (gpsd) running on the server. A Python script periodically polls gpsd, retrieves the number of satellites currently seen, and publishes that to the MQTT server.

Automated Signal Monitoring (Cont.)

The count is available to "subscribers", such as Home Assistant, and shown on the HA dashboard in real-time. Any substantial drop in the number is cause for alarm, potentially indicative of military action in our area of operation or near space. Substantial changes in location accuracy could be indicative of local jamming or intentional GPS accuracy degradation, likewise triggering alarm.

Home Assistant makes it easy to trigger actions, such as turning on a switch attached to an audible alarm when the number of GPS satellites drops below a threshold value. An alarm – change from routine operation – is a signal for us to investigate or possibly trigger other monitoring (e.g. start SDR scanning around 1575 MHz for indicators of local jamming.) We might manually launch xgps on the server to get a better picture of what gpsd is reporting.

In a more complicated use case, we have two USB-connected SDRs with suitable antennas for automated monitoring of the unlicensed 433 and 915 MHz bands. Open-source software (rtl_433) instances steer receivers, decode two of about 275 protocols, including weather stations and wireless utility meters, and publish output to the MQTT server. Again, exception reporting is of primary interest here, but we can also check our water usage this way and are, of course, always watching local weather conditions. It has been eye-opening to see the wide use made of 433 MHz near us. Low antennas keep the RF horizon reasonably close.

A couple steps of complexity further on is an Automatic Dependent Surveillance – Broadcast (ADS-B) receiving station built around another SDR connected to the server. ADS-B is the system that aircraft use to beacon their location. There is a wealth of information online about how to set up a receiving station using open-source or otherwise free software. Thousands of volunteers submit ADS-B reports to online sites, such as ADS-B Exchange and FlightAware for live flight tracking, though we refrain. The central programs behind ADS-B Exchange – readsb and tar1090 – are readily available, as are build/installation scripts that also set up a lightweight web server so live map displays are available to any computer on the local area network (LAN).

With a dedicated 978/1090 MHz collinear antenna having about 4 dBd of gain, our ADS-B station receives signals across thousands of square miles. Aircraft at higher elevations are received at greater distances with these line-of-sight frequencies, of course. The number of aircraft being received at any particular time is again our key metric, though it cycles throughout the day, week, and seasons unlike GPS. We here again use a separate script to poll the readsb server and publish numbers through MQTT to a Home Assistant dashboard. Ultimately, we will have some qualitative analysis depicting variance of the current count from historical averages, for example.

Finally at the server, we have a USB-connected transceiver that coordinates our Zigbee network of sensors and switches. Zigbee uses 2.4 GHz spectrum for low-speed mesh networking, typically for home automation. While not implemented for outside signals collection, the Zigbee coordinator is integrated with MQTT and Home Assistant and provides means to provide physical alerts, such as flashing lights or audible alarms.

Separate from the server and its receivers are two additional stations publishing data to the MQTT broker. The first is a NOAA Weather Satellite receiving station built around a Raspberry Pi using yet another SDR. It is more complex physically and computationally. It has a home-built antenna receiving 137 MHz signals from low earth orbit (LEO) satellites whizzing past. The quadrifilar helix (QFH) antenna provides a near-circular pattern on all planes and is relatively narrowly tuned to reject undesired signals. It is connected through a low-noise amplifier and filter to the SDR.

The weather satellite Raspberry Pi has several jobs. It collects orbital information, makes predictions on passes, schedules jobs to steer the receiver and record audio, decodes audio, and creates images after the satellite pass. The Pi massages and publishes information to the MQTT broker, but doesn't push images. The quality of images varies depending on the elevation of the satellite pass, but is never of the resolution or true color that we get to see on weather reports from NOAA's latest generation of geosynchronous satellites. Images are good enough to show approaching weather, wildfire smoke, and perhaps atmospheric dispersion plumes. Again, existence and continued operation of the satellites are key metrics.

Watch for Part 2 in April's Beacon!

Weekly videos of interest....
(click images to view videos on YT)

Just one video in this edition.

A. YT "Short" highlights the importance of COMSEC.

B. You just never know what you might pick up on your scanner!

Video link:

https://tinyurl.com/mrx74x99

AmRRON SWAG!

Available in the Redoubt Gear Store.
Prices vary depending on size and material.

Click on the image below to check them out!

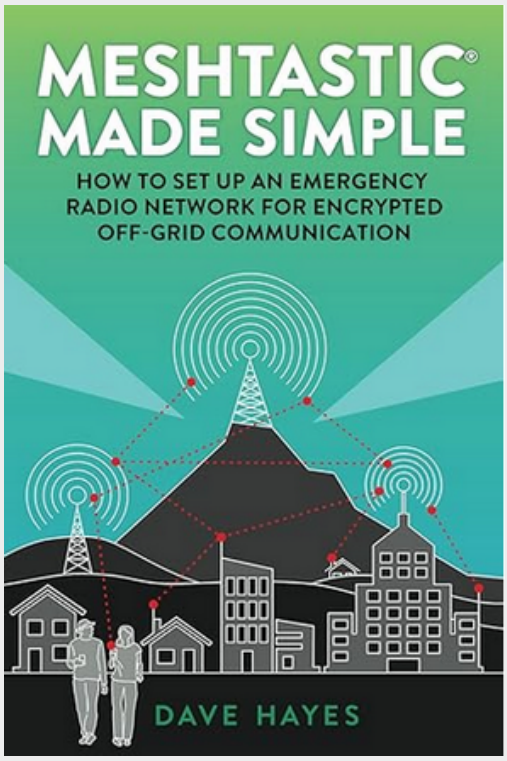
Available in OD Green and White

Cotton Blend or Tri-Blend

Book:

MESHTASTIC MADE SIMPLE

https://amzn.to/3FqxPI7



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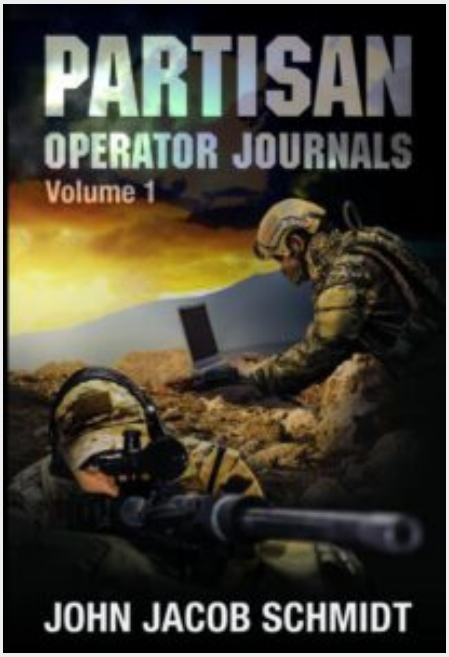

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