

Clay's Corner for February 2022

**Providing news and views from a broadcast
engineers perspective since September 1986**

This is the first Column I've written on my new computer. Yes, I finally bit the bullet and purchased something new. I've had a number of wrinkles to iron out, but we are making progress. The new machine is, strangely, quiet. The only moving parts are a couple of fans. The fact that I no longer have to sit and wait for anything is a bit startling...but I'm rapidly getting used to it. There are a lot of things you have to do to get the new machine up and running the way you want. Thankfully, I only do this about once every 10 years.. Shameless plug for Todd Marvin at US Micro in Bellevue.

Weather wise, January started off causing us to wonder if we were in for a very frigid winter....The passes were closed, and the ski areas were all smiles. Then the weather warmed, the snow melted and the flooding began. As we cruised into the middle of the month the snow level went way up and I have bulbs growing in my flower beds. Then the big surprise...a long stretch of dry, but foggy, weather that's projected to end, at the end of the month with lowering snow levels and normal winter weather.

Here's a shot from my perch above the Auburn Valley showing some 'Pink Fog'



This next one was taken on the 22nd from West Tiger, looking, Southeast, toward Mt Rainer. Here you can see the fog blanketing the lower elevations. The temperature inversion was very apparent as it was warmer at 3000ft than it was in the 'low-lands'.



Looking to the East, and higher terrain. You can see the Twin-Towers of the broadcast site we call Tiger-2. On the left, with some late in the day sun, is Mt Si, just east of North Bend.



Now, we are looking Northwest. If the weather was clear, you would see Seattle and Bellevue....but not today....Just the tops of the fog-blanket. The Tower you see here is located on the summit of West Tiger #2 and belongs to Boeing. (This is the tower you see when looking east from Issaquah) For those of you that are Hams. The Boeing Employees Amateur Radio Society has a 2 meter repeater at this location on 145.33 as well.

Looks strange to see bare-ground. This location also belongs to Weyerhaeuser and was recently logged at the same time as the Broadcast Site on West Tiger #1



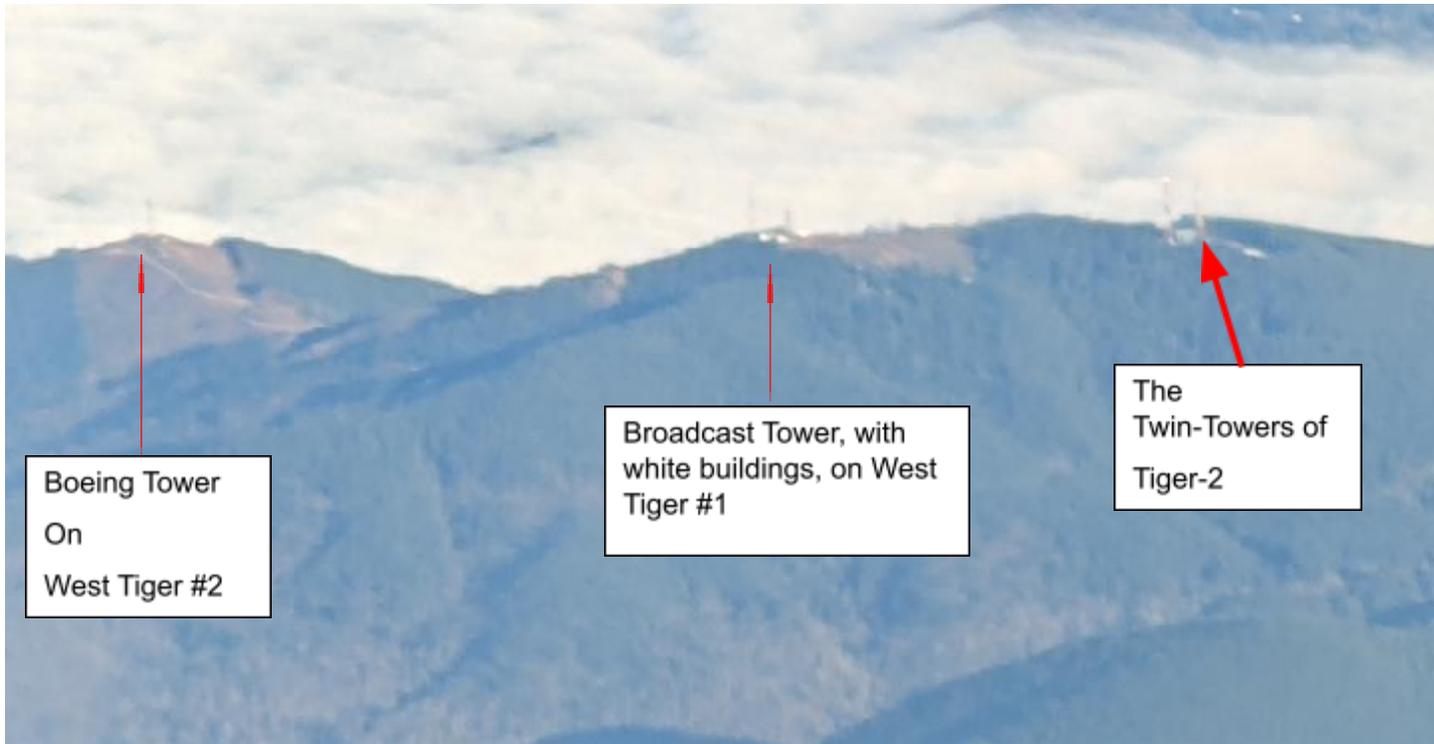
The following is an interesting picture, taken by Stephan Lockwood of Hadfield & Dawson as he was leaving Seattle recently on his way to Chicago. The visibility is a bit murky, however, if you look close, you can make out –

West Tiger 2, - Location of the above pictured Boeing Tower, on the left.

The Broadcast Tower on West Tiger #1 in the middle.

The 'Twin-Towers' of Tiger-2 on the right.

And the bare ground from the recent logging/clear cutting.



We are not the only area in Washington State dealing with fog as you can see here from this picture submitted by Jason Royals of the NWPB TV Transmitter site on Joe Butte, Tri-Cities. Over there the air temperatures were below freezing, under the fog layer, leaving the air with a coat of ice.

Note the Wind power generators just sticking above the fog.





Doing a bit of looking on Twitter, I found the incredible picture of a couple of Washington State Ferries on Puget Sound just under the Fog-Blanket.



The middle of the month saw an unusual amount of construction activity on Cougar Mt as KPLZ installed a new Main Transmitter while KIRO-FM was installing a new Auxiliary.

The change at KPLZ marked the end of the last major station hold-out to install HD Radio equipment. 101.5, under several owners, resisted the HD-Radio wave of 20 years ago, remaining FM only. They had two Broadcast Electronics (BE) transmitters, one of which was parted out to make room for the new GatesAir FAX-40. On the 21st of the month I noted the station was running HD with some Album-Art as well as Title and Artist information. No signs of an HD-2 or HD-3. I'm sure that will come in due time. Frankly, I would not be surprised to Lotus (The new owners) simulcast their 1000AM all news station on one of these channels. Time will tell.

Here's a picture of the new transmitter at KPLZ, courtesy of Doug Fisher of ComTek Service taken during the installation process. The new Gates Air is in the two racks on the left. On the right, is their former Main Transmitter.



Meanwhile, at another Cougar Mt Site, a number of us were busy installing a new Auxiliary Transmitter for KIRO-FM...Like KPLZ, this is a new GatesAir product. This will provide KIRO-FM with not only a new Auxiliary, but it will mean when the station switches from their Main Transmitter on West Tiger to Cougar, the station will still be broadcasting in HD with HD2 running KIRO and HD3 KTTH-AM.

Both of these stations older transmitters relied on Vacuum Tubes. Both of the new ones are all Solid-State. The number of radio transmitters still using vacuum tubes is, slowly but surely, becoming the minority.

I had a lot of emotional attachment to the transmitter that this new equipment replaced. That transmitter, a Collins 831G2, was installed back in the middle 70's when then KTNT-FM/KNBQ increase power to 100Kw in Tacoma. That same unit was moved to West Tiger Mt where it was the -first- FM station on the air at that site. (The call was changed about the same time to KBSG). Then when the station installed their newer main transmitter at West Tiger it was moved to Indian Hill (between Tacoma and Federal Way) where it served as the stations

Auxiliary. In 2000 it was moved to Cougar Mt where it remained an auxiliary until the 12th of January, this year. It will not be going to a land-fill, but rather to a station in in Kansas (I think) where it will serve a new owner for years to come.

Here's the last picture of the old KTNT/KNBQ/KBSG/KIRO-FM Transmitter as it was installed at Cougar Mt



And here is the old gal, heading out of town



And here's a look at the new transmitter. Same power, much smaller and 47 years newer



On the right, and behind the new KIRO-FM Auxiliary is the Auxiliary for KNKX, also a legacy Collins.

We recently experienced another 'wrinkle' in the roll-out of 5G. Interference with Radio Altimeters. A number of flights at Paine Field were cancelled due to the issue. Apparently they resolved the issue by the end of the Month.

For years I have been writing about how certain factions object to new towers and transmission facilities. Usually, those that object are citizens who fear that they might be harmed from those invisible things that are emitted by antennas. When 5G started being talked about, some of the loudest objectors were those that feared that 5G emissions would give them Covid-19, or worse. Little did we know that another faction would object to 5G in the form of Aviation who is concerned that the new system will interfere with radio altimeters.

Prasenjit Mitra, Professor of Information Sciences and Technology, Penn State, explained what was going on.

The portions of the radio frequency spectrum used by airplanes and cellphone carriers are different. The problem is that airplane altimeters use the 4.2 to 4.4 gigahertz range, while the recently sold – and previously unused – C-band spectrum for wireless carriers ranges from 3.7 to 3.98 gigahertz. It turns out the 0.22 gigahertz difference between the signals may not be quite enough to be absolutely sure that a cellphone carrier signal will not be mistaken for or corrupt an altimeter's signal.

The telecommunication industry has argued that the gap of 0.22 gigahertz is enough and [there will be no interference](#). The airline industry has been [more cautious](#). Even if the risk is very small, I believe the consequences of a plane crash are enormous.

What we have going on here is a situation that is becoming increasingly common where the FCC is trying to squeeze more users into a finite amount of spectrum by creating a situation where dissimilar users are asked to coexist with minimal protection that will assure that no-one will be harmed. When one of the users is an aircraft full of passengers, this moves the conversation to a whole new arena. Can you imagine what would happen should (God forbid) an aircraft were to crash and the cause was determined to be related to this 5G issue? Look at what Boeing has been going through with their 737 Max.

Now the switch is on....The Carriers are looking at the day when their old 3G systems are retired. If you have any devices that works on this older technology, you should be making immediate plans to upgrade. This could involve the vehicle you are driving too !!. Anyone know what 'G' GM's On-Star uses? If you find that the Navigation system baked into your car or truck suddenly goes stupid, will the vehicle maker have an upgrade - Without having to purchase a new vehicle??

Have to wonder how long it will be before we heard news about 6G? Save those 'foil hats' folks, who knows what evil lurks out there in the future 😊

Interesting how the Wireless world has jumped on the 'G' bandwagon...in their marketing. No 6th Generation for them.

Meanwhile TV Broadcasting likes the term 'Nextgen'. Wonder how using the Wireless labeling would have worked. For Radio – AM could have been 1G, FM 2G and perhaps HD 3G...Oh well.

On the subject of Car RadiosDid you know that the 'Car-Radio' is 100 years old? Twas back in a century ago – when the Chevrolet Motor Company first attempted to fit a commercially viable, portable radio into a car. I was not until the 30's that Paul Galvin really worked to perfect the 'car radio'...in the process he founded a company called 'Motorola'.

For a long time, the car radio was an option....That is until the Japanese manufacturers starting making them common equipment. Initially all car radios were AM only, even after FM stations starting to become common. I recall in my 1962 Bug, I had an after-market FM tuner in the glove box. I recall one time driving along with a passenger when we went across a steel-girder bridge as he wondered why the radio station did not fade out....it was then I told him that we were listening to FM. Before the advent of FM Stereo car radios often had a single speaker in the dash. If you were cool, you had one mounted behind the back seat. Slowly FM was being added to car radios. Once again, if I recall correctly, the Japanese makers were leading the way. Stereo changed a lot in vehicles with the addition of a lot more speakers.

Along the way vehicle radios started adding devices that would permit users to play records and tapes and eventually CD's and USB jacks for thumb-drives for external audio sources.

Today the stand-alone car radio is a thing of the past. What used to be a car radio is now a center console collection of electronic devices that include navigation-aids as well as systems that integrate the drivers cellphone. Interestingly, some vehicles no longer include the ability to receive AM Radio stations, perhaps to avoid having to deal with the vehicles other electronic and electric systems that generate a considerable amount of noise that would degrade the AM signal.

This 'memory maker' hangs in my garage in the form of this metal sign designed to be attached to a license plate. Anyone recall these call letters? I worked there back in the last century...One of my first jobs in Broadcasting



An Interesting item in the news is the story regarding NPR's former Director of Broadcasting Engineers suing NPR for \$5 million claiming he was wrongfully dismissed. Kevin Langley spent 25 years at the public radio network until he was dismissed in July 2019. Langley, who is Black, alleges he "was the subject to a pattern of discriminatory events" in violation of federal civil rights laws. Langley, who was 55 years old at the time of his exit, also alleges that he was discriminated against based on his age. He is seeking at least \$5 million in compensatory damages in addition to punitive damages – as well as a new director position at NPR.

This past month featured a 'big bang' in the form of a huge volcanic eruption in Tonga. This resulted in a TSW being issued for our area.. Tsunami Warning for those of you that don't 'speak' Event Codes. The 'output' of this blast is being compared to the eruption of Mt St Helens back in 1980. According to NASA's Jim Garvin, the Tonga Blast was the equivalent to about 4- 18 megatons of TNT. That's compared to 24 megatons for St Helens. In the cast of the January 15th blast – 52 detectors, around the earth, head the low-frequency boom. Those detectors were not operational for St Helens Unlike St Helens – No TV Coverage in Tonga, in fact, they were pretty much cut off from everyone.

That Tsunami warning along our coast was pretty rare, but it did serve as a warning and/or wake-up-call for many that have been trying to get our attention about what will take place when the 'Big One' hits us, which some experts feel could take place in the next 50

years. The Tonga blast created a small 'ripple' compared to what the 'Big-One' is projected to cause. This will be a huge wave that could be 30 feet high that is sure to cause massive destruction along the coast and many areas in Puget Sound. That one is sure to get a lot of local, national and international media attention.

Once again, the Mike and Key Amateur Radio Club is going to – attempt- to have their annual Flea-Market in April. A group of us usually meets for breakfast in Auburn before heading to the event. I recall that event taking place 2 years ago....This was just as the Covid-19 issue was getting started. Most of us met for breakfast but avoided the event. Like all things these days, this event too may, or may not take place. Stay tuned.

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Hard to believe that we have been living with this Covid-19 Pandemic for about 2-years. Despite all those that are predicting the end is in sight, there always seems to be another variant coming along. I, like many of you, have known someone that has contracted it. My next door neighbor died of it, early on. At this writing, My #2 (Fully vaccinated) Son is dealing with it. In his case, he was associating with those that were un-vaccinated and not wearing masks. My wife's niece



and her husband are both Doctors and come home from work with horror stories of dealing with those that have not made it. All the time, there are still those that don't take this matter seriously and dismiss those that are advocating vaccination.

As of January 26th – 10,543 have died in our state out of a total of 1,212,297 cases.. 2,301 of those deaths were from King County alone.

In the US, there have been 72,208,2908 cases and 870,837 deaths.

In Canada there have been 2,961,343 cases reported and 32,966 deaths.

World- wide, the total number of cases is about 355,000,000 with over 5.6 million deaths.

I wonder how many would have predicted these numbers 2 years ago?

I am concerned about the health of Portland area based, very well-known and respected, Broadcast Engineer, James Boyd. I understand that his lungs and heart are failing.

Hang in there, James – Know that you are loved !



The – 21+ - Radio number are out ...

Here's my look at the top 10 –

#1 is Hubbards KRWM with a 9.6. I suspect this had a lot to do with their Christmas music programming.

#2 is KIRO-FM with a 6.6. This station is likely to move up now that Christmas is over.
 #3 is KOMO AM – with a solid 5.5 proving that Seattle area listener like the spoken word.

Other things in noticed –

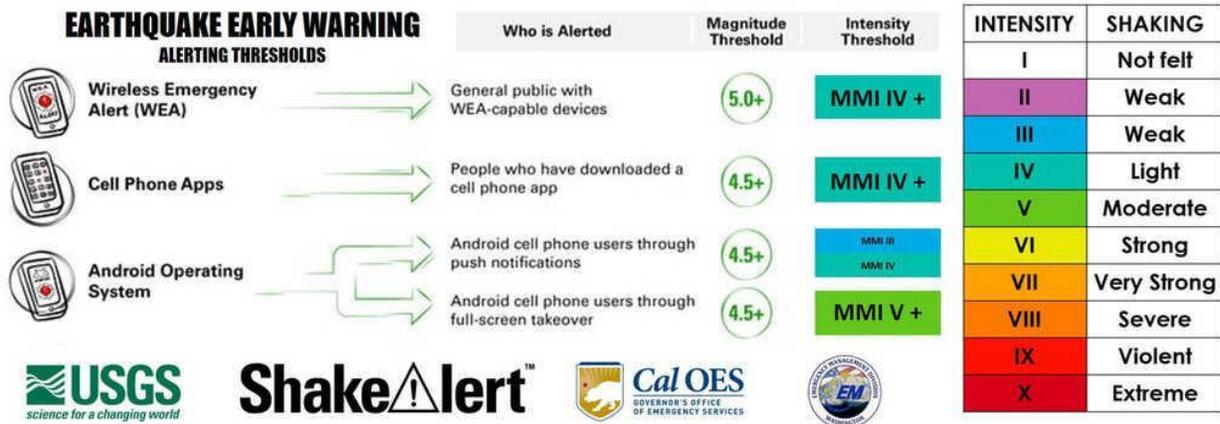
KCMS came in at #6 – Again a station with lots of Christmas Music.

KEXP ended up #9. Once again, the little station whose coverage is but a fraction of those power-houses in the market perhaps providing that content is more important that coverage and kilowatts.

Perhaps what is most significant about these recent Radio Ratings is that this is the first time I can recall there have been 4 Stations whose HD2 signals have made a showing in the numbers. KING-FM, KJAQ-FM, KNKZ-FM and KRWM-FM. These are not big numbers, however, they do underscore that, slowly but surely, HD Radios sub-channels (HD2 HD3 etc) are getting listeners. Now to see what KPLZ will be doing in terms of HD2 & HD3 programming.

Looking down the road at Portland – I could not help but notice that KKCW was #1 with a rating of 17.0. When you look at the fact that the #1 Radio Station in Seattle had a 9.6 you have to wonder what they were doing that attracted this much attention. Even their #2 station (KOPB) registered an 8.3. Portland’s #3 station scored a 6.9, equal to Seattle’s #1, KRWM.
 #3 s.

Thanks to all the media attention, by now, you certainly must have heard about the new App for your cellphone that will give you a couple of seconds warning of an earthquake. The new system, which rolled out during the last week of January is called ‘My Shake’. I opted in, perhaps you should too?



The MyShake app is available for free through the Apple App Store and GooglePlay for Android phones.

Users can learn more about the different options available at mil.wa.gov/alerts.

Recently the BDR posted this item -

EAS VIA SIRIUSXM

SiriusXM has announced that they will enhance the value of their Preview Channel for EAS with weekly "log only" RWT's as assurance for those who are taking advantage of this means to receive Primary Entry Point tests and alerts. (Some EAS Participants in the CONUS still cannot reliably monitor a PEP station.) A low cost home SiriusXM receiver with analog jacks will serve for this purpose. (tip of hat to Richard Rudman).

Here in Washington State, we have assigned certain stations to monitor SiriusXM for some time....Especially in areas of the State that cannot, reliably, receive KIRO-AM-710. This enhancement is certainly a welcome addition.

It's official – Auburn now has TWO Radio Stations. On the West Side, KMIA on 1210 and on the East Side, KKDZ on 1250. The latter using one of the old KMIA/1210 towers for Day-Time operation only. They have a construction permit that would use the other 3 remaining towers for night-time operation. This change was handled by Jim Dalke.

Who would have thought that Auburn would have two stations, much less one Latino and the other Punjab?

The FCC is out with a 'security advisory' regarding cyber threats from Russia. With the uptick in tensions between Russia and the US, you can bet that this is a tool that may well impact a lot of us....Broadcasters for sure.

From my perch on the east-rim of the Auburn Valley I captured this picture on January 7th



My Column would not be complete without a beautiful picture from Dwight Small



That's it for this month, sorry I'm a bit late in getting this one delivered.

Hope to catch you here next month

Clay, K7CR, CPBE

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