

The Source Newsletter

April 2024 Broadcasters' Issue

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[Publisher: Information Station Specialists](#)

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What will happen when the internet gets eclipsed?

**Special glasses will protect us during a solar eclipse.
Not so much, an "internet eclipse."**

On April 8, the moon's shadow will slice an arc across North America from Mexico to Maine. 3.7 million eclipse enthusiasts are expected to crowd that 120-mile wide corridor to view "totality" before turning to depart in a mass exodus. But no one will part this sea of vehicles. Gridlock is inevitable. First-responders expect to have difficulty reaching those who need help. It's anticipated food, fuel and medical services could be in short supply. Three counties in Texas have already issued local states of emergency, preparing for a doubling of their populations in the days around the event.

But worse could be the communications gridlock. The eclipse will happen where it happens, without regard for cell-tower-capacity. Cellular services – especially in lower-capacity areas – may overload, leaving both travelers and residents without the ability to make calls. Cellular is the gateway to the internet, especially for those on wheels. When it is maxed out, everything from the delivery of wayfinding assistance, to weather warnings, to emergency notices could be impacted.



Does this have a familiar "ring" to it?

Recall that on February 22, AT&T's cellular network went offline nationwide for 12 hours, stranding millions who were unable to make calls; some found themselves without prescriptions and lifesaving services. The FBI and DHS launched inquiries, and on March 7, the FCC followed suit. AT&T has blamed the incident on an "incorrect process" that was used while expanding their network. Why such an error required 12 hours to correct was not explained.

Just three weeks before that interruption, a Congressional Committee had been reminded by FBI Director Christopher Wray that bad actors in other countries are targeting our infrastructure, intending to cause "real world harm" to US citizens. Jen Easterly, head of the US Cybersecurity and Infrastructure Security Agency, advised the Committee that Americans need to prepare for an unexpected cyberattack.

It's hard to get any more direct than that.

That testimony, the AT&T outage and now the approaching eclipse have raised the awareness in the US to

Up on the Roof

Connecticut AM Celebrates Four of "Temporary Operation" after Unexpected Loss of Transmitter

GREENWICH, CT: WGCH AM 1490 has been delivering the news in New York's Fairfield Westchester Counties as long as anyone can remember. But in 2019 they met the new their leased transmitter site, who delivered the news: rent was about to go up 500%. The increase led to the final sign-off for Greenwich's long-time community radio station. Instead of taking it lying down, the WGCH engineer chose to look up.



He recalls, "It would have taken a considerable amount of time to get all the permits and contractors to install on the ground, ... during there would be no radio station."



WGCH News Director Tony Savino at the Mic
Photo courtesy of WGCH

But after some research, the station's engineer came across better news: a new kind of antenna that could "handle a reasonable amount of power and easily be installed on a roof." [The HF AM Antenna](#), rated at 250 watts, was new market. "Thanks to its swift preparation and a timely delivery, WGCH never missed a day on the air," asserts the engineer.

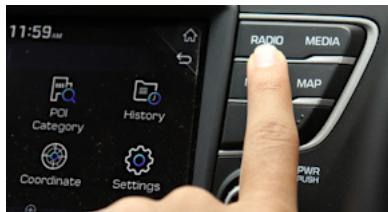
a reality: for the sake of public safety, we are remiss if we do not provide a backstop for citizens when digital communications are interrupted.



In a crisis, smart people are learning not to count on their smartphone to show up.

Disruption of wireless service is frequently the result of natural disasters. But a cyberattack due to malicious activity or war could be way worse. It could eclipse not only the wireless infrastructure but the internet itself, presenting the potential to be dramatically more devastating; its duration, its scope and its geography could be massive in comparison.

Local broadcasters have a unique opportunity to stand in the gap. That fact is even recognized internationally, with the UN's UNESCO agency recently identifying broadcasters as a "vital lifeline" and encouraging the worldwide "protection of emergency radio frequencies for the public dissemination of vital information."



Closer to home, that reality is amplified by the bipartisan support expressed for the ["AM in Every Vehicle Act."](#) That landmark legislation, aimed at preventing carmakers from kicking AM radio to the curb, is now poised to pass the House of Representatives, having secured its 218th voting supporter. The bill's sponsor, New Jersey Representative Josh Gottheimer, has predicted, "It's on its way to becoming law." The act would require all automobiles sold in the United States to have AM radio receivers conspicuously in their dashboards. Until passage, Gottheimer is calling on the National Highway Traffic Safety Administration (NTSB) to require automakers to label vehicles without AM receivers as "unsafe in certain emergencies."

Consider how your broadcast company and you yourself can aid in awareness and preparation. Unlike a natural phenomenon, this approaching shadow is not one that can be predicted to the second. But, as our leaders are advising, it can be predicted.



The 32-foot center-loaded whip antenna is mounted on insulators to a mast with a groundplane "gravity-mounted" on the flange beneath. A run of conventional RG8 coax abandoned incinerator duct to the transmission basement competed the antenna system. Tweaking it for resonance, the engineer trimmed it and fired up his transmitter to 1000 watts, commenting that "a surprising amount of our original Class C coverage area was maintained using the HPR.0990, despite the antenna's small size. While this is a temporary solution, it is buying us the time we need to find a new tower site."

The antenna is part of a line of ["AMReady" products](#) Information Station Specialists is available (for purchase or rental) to broadcast including low power transmitters and pre-groundplanes. The company is currently using a 1000-watt version of the HPR.0990 Antenna which may allow WGCH to return to full power from the station's rooftop perch, doubling current signal levels.

That might be the best news of all. To learn more, [contact Bill Baker](#), the sole agent for inquiries on this article.

See also, ["Tower Down! Norfolk's WJOI Maintains Operations with Quick Switch to New HP AM Antenna,"](#) *The Source*, Sep 2019.

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