

100th Anniversary Celebration of the First Trans-Atlantic Radio

Transmission of a Message by Amateur Radio

Saturday, December 11, 2021

On a cold winter night on December 11, 1921, members of the Radio Club of America were able to send the first amateur radio message from a small shack in Greenwich, CT to be received by American Paul Godley in Ardrossan, Scotland. This transatlantic test proved the value of shorter wavelengths – long considered worthless to long distance communications and through their success ushered in the age of global shortwave radio communications. The 1921 message was sent one-way. Acknowledgment of Paul Godley's reception of 1BCG's message was sent back to the US via the Marconi high power radio transmitter in Wales.

The Antique Wireless Association, in association with the Vintage Radio and Communications Museum of Connecticut (VRCMCT) in Windsor, CT, the Radio Club of America, the American Radio Relay League, and the Radio Society of Great Britain, participated in the 100th Anniversary special events held Saturday, December 11, 2021.

For the 75th anniversary celebration of the 1BCG accomplishment in 1996, AWA members Bob and Mike Raide constructed a replica of the 1921 transmitter. For this 100th celebration, AWA Museum Staff restored the replica. The VRCMCT in Windsor CT has graciously offered to host AWA operation of the replica transmitter during the evening of December 11th. The 1BCG replica transmitter was placed on public display at the VRCMCT Museum during the day of Saturday December 11, 2021.



The plan was for the replica transmitter to be operated during the evening as W2AN/1BCG on 1.821 MHz, plus or minus, using CW. Members of the RSGB in Ardrossan were listening for those signals with the goal of replicating the 1921 successful transatlantic reception using a 1921 designed transmitter.

But, the transmitter had other plans and decided to be cranky from the minute we unloaded it from the truck in CT. At the AWA in Bloomfield, thanks to countless hours by the AWA tech team, the transmitter was putting out 400 watts with reasonable frequency stability and a reasonable CW tone for a MOPA (master oscillator power amplifier) 1921 design and 80 to 100 year old parts. But, where we had 400 watts output in Bloomfield, we only 200 watts in Windsor. When master transmitter technician Joel Kosoff W3ZT first turned it on, we began a series of fix this and then fix that and fix that again over the afternoon and evening.

During our shortened operations, we have sparks and burning wires, not just a blown fuse(s), but exploding fuse(s), sudden high VSWR from rain soaked coax, one of our three 204A tubes went soft, a smoking RF choke, the frequency meter that we took got knocked over and was doubling all frequencies, and then finally a burnt out RF choke that ended our efforts for the evening.



My hat is off to Joel Kosoff (pictured on the left with Tim Walker W1GIG) who worked his magic to recover from most of the problems. Before starting the announced schedule at 2300 UTC, three QSOs were recorded at 200 watts from 2233 to 2239 UTC. Joel began the scheduled message at 2300 UTC and transmitted for about 30 seconds before it went dead for the first time. Joel brought it back and it went dead for the 2330 UTC transmission. He brought it back. And, so it went. He got all of the 0000 UTC message sent and all but the last couple of characters transmitted of the

0015 UTC. Each time it came back it was even increasingly unhappy than before. Also, it seem to drop in attainable frequency. The 0015 UTC transmission was at 1809 kHz and it would not oscillate at any frequency higher. The end of the night came when the oscillator RF choke fried. It was clear that various components were breaking down over time and stressing and taking out other components with them. I would report that a exploding glass fuse sounds just like a gun shot and had the crowd ducking including myself.

There was a crowd of about 40 spectators for the event. Despite the troubles with the transmitter, they were very appreciative and having a great time. What they witnessed and appreciated was a recreation of the incredible efforts of those radio pioneers in a cold, barely heated shack in Greenwich CT in 1921.

Clark Burgard N1BCG wrote a wonderful email about the day's trials and challenges:

It is remarkable to me how the challenges of 1921 resurfaced a century later to maximize the realism of our commemoration. In many ways, the spirit of the 1BCG team ensured that we would appreciate what they went through.

Here are some quotes from the "Proceedings of the Radio Club of America, 1BCG Commemorative Issue, October 1950" where Ernest Amy and George Burghard shared their recollections of building and operating 1BCG.

This is for Bob Allison W1BIGCM (VRCMCT) who endured soaking rain to perfect the antenna:

"Unfortunately, during the early construction days of the station, weather conditions could not have been much worse, with rain, sleet, ice, snow, or bitter cold most of the time. Several of the members of the local Fire Company loaned us their equipment, such as rubber boots and waterproof coats. Needless to say, this was most welcome when constructing the cage antenna and radial wire counterpoise in the rain and snow."

And for all that Joel went through in wrangling the transmitter onto the airwaves, I'm sure you can appreciate that you were not alone in spirit:

"At Armstrong's suggestion, it was decided on December 5th to rebuild the transmitter, using a master oscillator power amplifier arrangement in order to avoid the self-excited oscillator disadvantages and produce a pure, steady C.W. signal for ideal heterodyne tone reception... During the evening of December 6th, however, this new transmitter was put into operation. Using two 250 Watt "P" tubes as amplifiers and one as oscillator the antenna current was slowly increased to 4 amperes, and there it stayed for all adjustments until finally, having worked past 4 amps, it suddenly jumped to 6. A long CQ was sent out at 3.30 until the filter condensers began to boil and break down. We shut down at 4.30 AM."

