

The First Amateur Radio Repeater: The Birth Of A Breakthrough

Most of us can't remember a time without UHF or VHF repeaters.

As the LVRAC digs in to upgrade, update and improve our repeaters, we thought it might be interesting to look back at our hobby's very first repeater.

The year was 1956.

In Northridge, California, Art Gentry, W6MEP (SK) had been tinkering for the previous few years with remote control stations. He launched his first AM repeater from his home with the callsign K6MYK.

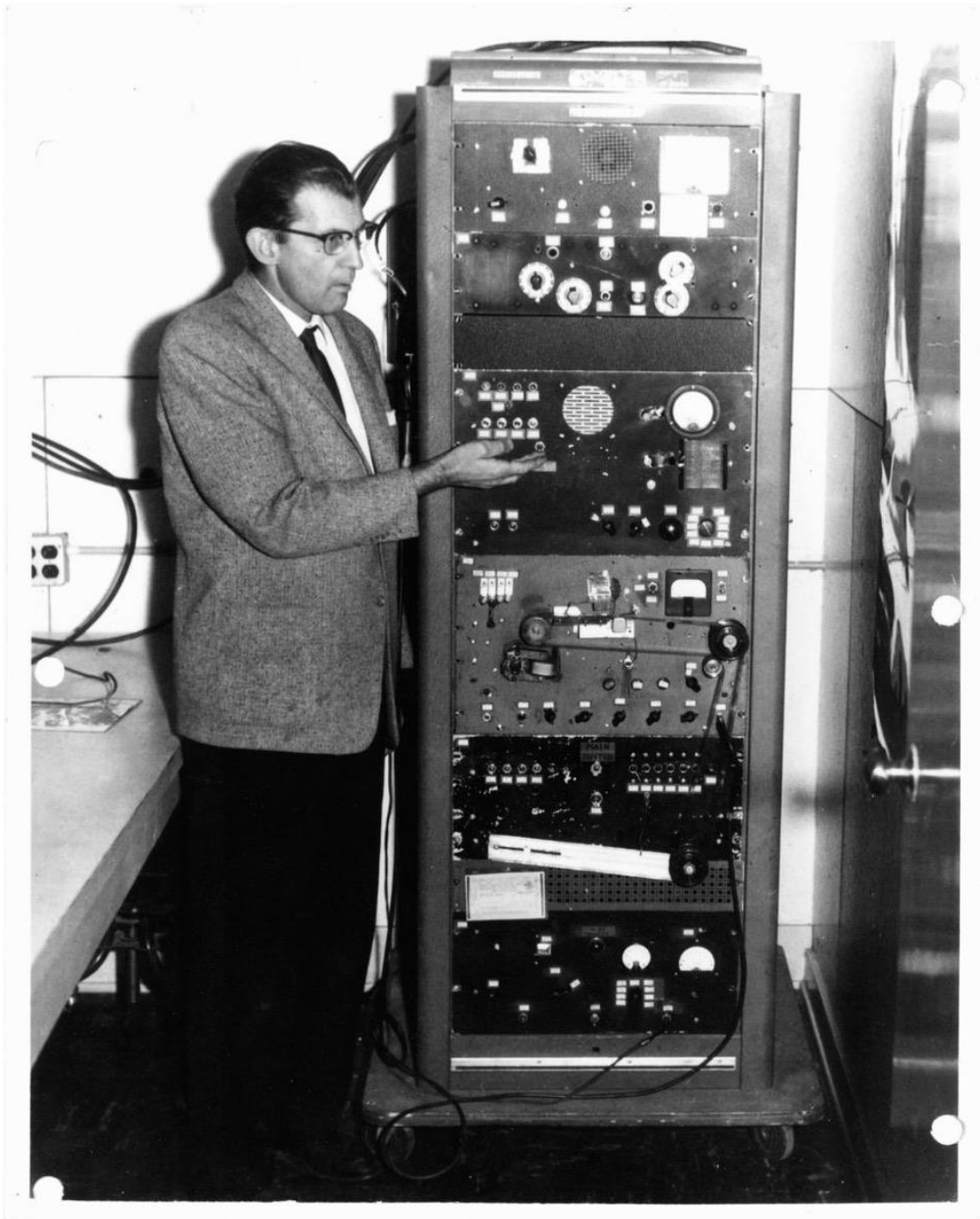


The Art Gentry's 1958 Model Of The 420 MC Control Receiver

Art was on the engineering staff of Los Angeles TV station KTLA, and an avid amateur operator in his spare time. (As a sidebar, KTLA produced the first live TV broadcast of atomic bomb testing here in Southern Nevada, which Art was involved in setting up.)

It's not unusual for amateur operators to gripe about equipment manuals. Art had no manuals and limited technical articles to study to find ways to marry a receiver and a transmitter. It took time, trial and error and lots of testing different channel separations.

He wound up building **from scratch** a new type of receiver that **could** handle a very strong co-located transmitter signal on a nearby frequency with no receiver degradation while still performing the rest of the functions he envisioned.



Art Gentry With The 1958 Model Of His K6MYK Repeater

Here in Southern Nevada, we are fortunate to live where we can enjoy repeaters performing at their best.

As Art Gentry explained it for the ARRL magazine *QST* years ago, “Repeaters in the west have line-of-sight ranges of a couple of hundred miles. You go back east, or in the plains states, and if you can get 500 feet up you are doing good. New York City has a few sites at 1000 feet but look at what you have to contend with. The ‘concrete canyons’ are one of the worst things in the world to try to get signals through.

“And it’s a fact that the West has always been innovative. The west is a big, wide-open country with a strong sense of individualism. People bring that western spirit to radio and do what they’ve always done - innovate. We’re pioneers. The pioneer spirit that came West in the beginning is still here.”

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The spirit of the K6MYK is still here as well, now using the W6MEP callsign as a tribute to Art Gentry and his wife Millie, K6JJN and his enduring contribution to amateur radio.

The W6MEP repeater is **now** up on Mount Wilson at an elevation of 5,700 feet, just north of Pasadena, California in the San Gabriel Mountains. In the mid 1970s, the repeater transitioned from AM to FM.

The input frequency is 147.840 MHz and uses a 67 Hz PL tone. The output frequency is 147.240 MHz.

This remarkable repeater, rich in history and a pioneer in high performance, has its own mission statement.

“The W6MEP repeater is dedicated to the memory of Art Gentry, W6MEP and his wife, Millie, K6JJN,” says Burt Weiner, K6OQK. “Art is considered the Father of Amateur Radio Repeaters; in that he built the first known fully automatic Amateur Radio repeater.

“The W6MEP repeater, originally K6MYK, has been in consistent operation since 1956 when it first went on the air from Art's home in Northridge. In 1958 it moved to Mt. Lee just above the famed Hollywood sign. It is the oldest known continuously running repeater in existence.”

Here's a partial view of the two racks...



**A Partial View Of The Current W6MEP Repeater
(Thanks to Burt, K6OQK)**

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Burt is the repeater's current trustee and he's been kind enough to fill in the LVRAC with a detailed lineup of the present day gear, which takes up two full 7-foot racks.

"The repeater transmitter today is a Kendecom MT4 transmitter running about 5 watts as the exciter, which drives a Henry commercial series 250 watt amplifier. The MT4 is direct FM and is driven by commercial FM broadcast audio equipment, but bandwidth is limited to 4 kHz audio and runs about 4 kHz of deviation.

"The receiver normally used is a receiver section of a VHF Quantar. The receiver has been modified to provide wideband audio, not to be confused with wideband receiver signal acceptance.

"The logic deck is one that I built for my WA6TDD repeater starting in 1960. The controller has been undergoing modification ever since. Yes, I could use a nifty microprocessor controller contraption, but the original has worked so well for so many years without failure, which is why I chose to continue to use it.

"At the present time, we are using separate antennas for receive and transmit. The receive antenna is a Commander Technologies 620DT3N, a model 620 with 3° down tilt, with its base about 15 feet above the top of the 170-foot tower on Mt. Wilson. The transmit antenna is located about 20 feet above ground on a corner of the building but will soon be moved to about the 75-foot level on the tower.

"We are not duplexing into the top antenna due to an intermittent noise problem that is not caused by the antenna, feedline, or mounting hardware. It's also very difficult to get to the antenna because of the pole mounting above the top of the tower, not to mention that we have to pass by the 110kW ERP of the host station's FM antenna. (KPFK, 90.7 MHz) We've been blessed in that we've had the site for over 65 years at no cost."

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What a repeater, not only historically significant, but a Southern California powerhouse.

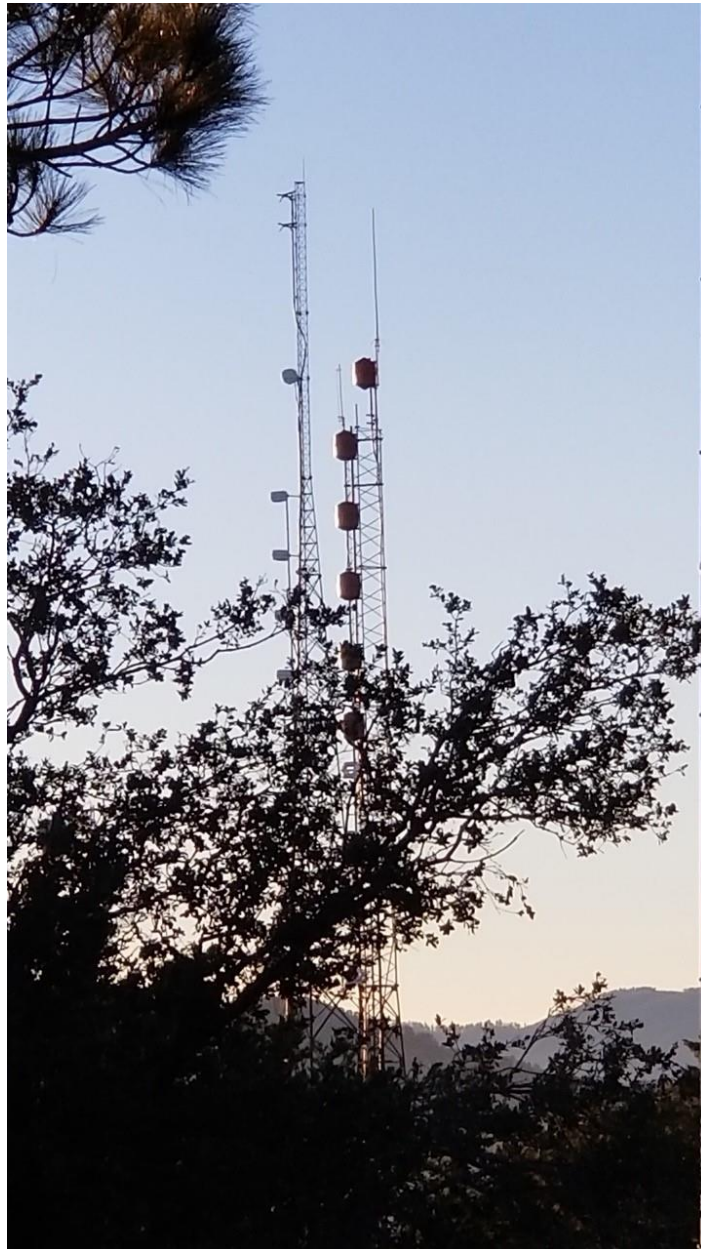
Burt maintains the repeater with a few helping hands.

"I'm now 84 and know better than to climb. I used to do all of our own climbing and tower work, but now use a well-respected, professional tower rigging company that does a lot of heavy duty work on the mountain.

"I have work that takes me to the mountain every week or so, so whenever I'm up there I give the repeater a looking over and a gentle pat. If there is any serious work that needs

taking care of, I do it myself. However, there are other broadcast engineers on the mountain that are willing to run over and do whatever might be necessary. It's become part of the broadcast community.”

“We make all licensed newcomers feel welcome, and they in turn feel like they've found a home. It's a win-win situation. “The only requirements to using the repeater are that you have a valid ham license and that you're a nice person.”



**The W6MEP Mount Wilson Tower
(Thanks to Burt, K6OQK)**

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W6MEP is an inspiration to us all.

Here in Southern Nevada, the LVRAC looks forward to giving our members a better repeater experience. In the months and years ahead, we will continue to make the most of our enviable location atop the 30 story, 375 foot tall Westgate Las Vegas Resort & Casino.