



## Police Radio — Tales of the Wireless Pioneers



[A Parker Bros game, n.d. circa 1945]

### A 1974 Report by H. T. Hart, SoWP 585 - V

The INTER-CITY POLICE RADIO TELEGRAPH NET got its start as a stepchild of police radio in the early Depression thirties. Its purpose was to establish a reliable communications service between large Metropolitan Police Departments throughout the United States. Since many licensed Radio Telegraph operators were already employed at their radio stations, police officials were alerted early to the potential of these capable men. Many communities, despairing at their inability to cope with the rapid movements of John Dillinger, Pretty Boy Floyd, Ma Barker and Vern Miller and others of their kind in that era, joined together in making plans to petition the Federal Communications Commission, for authority to initiate a network of this kind.

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As they always have in the past, these ex-sea going operators carne through and established a professional radio telegraph network that transmitted Police Intelligence in a manner that compared favorably with similar Military and Commercial

services. They handled 500 word Radiograms of fingerprint classification data, with its inner whirls and outer whorls with aplomb. Many of these “wanted” men were apprehended through the use of this method of Wireless. Of course there were problems. Operators were monitored by the FCC playing checkers and chess on many a dogwatch. Ambitious Chief Operators in one city tried to extend their authority over operators in another city because of loose net discipline. But, in spite of these and other handicaps, the Police Radio Telegraph Net helped bring about an organization known as APCO (Association of Police Communications Officers). \*\*\*

Responding favorably to [the initial] petition, the FCC authorized a number of Police Department Radio Divisions to start experimental tests by sending CW signals in the 2 to 8 megacycle [MHz] bands.

At [police radio station] KGPE, Department of Police, Kansas City, Mo., the radio operators confronted the challenge with some misgivings. There was very little money on hand to purchase even the most elemental gear essential for the tests. Some of the operators had only Radio-Telephone licenses and could not manually transmit the CW [Morse code] signals during their watch at the police radio Transmitter. So, after several false starts a practical method of doing this automatically was devised. Off-duty operators had scrounged discarded equipment from local broadcast stations, which could be converted to this purpose during the experimental period.

A standby Western Electric 9A transmitter was converted from A3 (AM phone) to A1 (CW) emission. An RB-7 National receiver was loaned by a local ham for use in monitoring transmissions from other cities participating in the tests. Hooked to a keying jack that had been added to the transmitter, was a haywire lash-up consisting of a broadcast station transcription turntable, on

which rotated a 16 inch disc whose edge had been notched to tap out a series of V's ending in KGPE the station's call letters. These notches tripped a switch plugged into the keying jack of the transmitter. As long as the turntable rotated the transmitter sent out the V's and Call Letters as a test signal.

Over a period of months, duty operators on each watch logged all test signals heard from other cities engaging in the tests. At the conclusion of the experimental period, all data was studied to determine if such a communications service was indeed feasible. Many city and state police officials followed this activity with great interest. Eventually the FCC granted approval and it was not long before a busy network of Police Radio Telegraph circuits was in operation.

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H.T. Hart's story has been lightly edited; he added a final note:

“What happened after I left for WWII in 1940, I have never had the opportunity to find out. Perhaps some other SOWP member can add a sequel to this story. (By H. T. HART 585 - V)”

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An illustrated supplement by CHRS Archivist Bart Lee, K6VK follows:

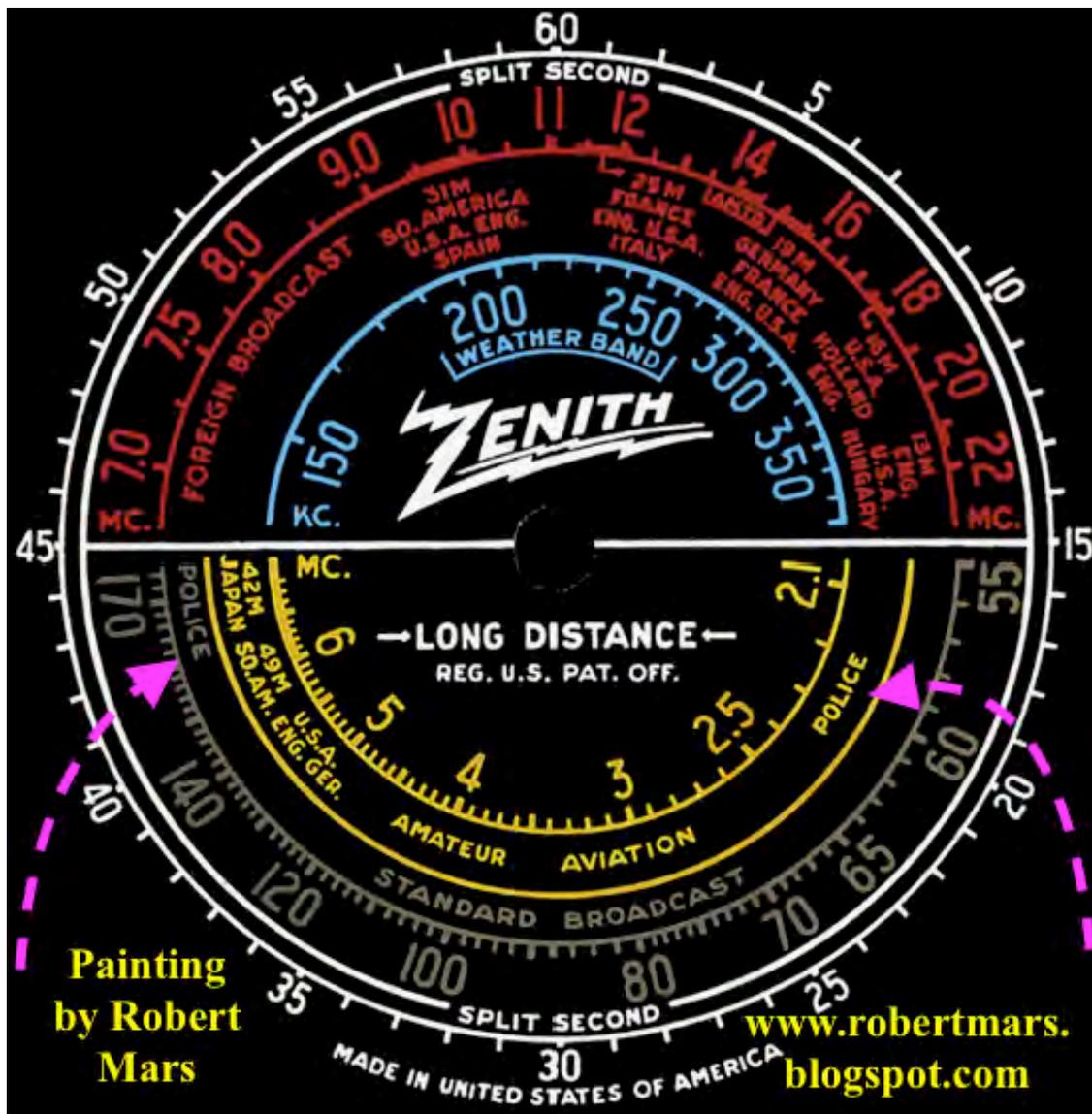
There's a before and after for police radio. One of the most interesting police radio stations enjoyed the callsign KOP:

“It is interesting to note that the Federal Radio Commission was to be found in opposition to the plans of the Detroit police. In the year 1923 the Detroit Police Department secured license to operate on the broadcast band station KOP, but before the police could broadcast any call they were required to include an entertainment feature on the broadcast. As a result they played the tune ‘Yankee Doodle’ before making calls to officers on patrol. This caused [Commissioner] Rutledge to retort: ‘Before much progress can be made, we must receive full cooperation from those who control the destinies of police radio ... the Federal Radio Commission ... The progress achieved by the Detroit Police Radio Division... has been obtained *in spite* of the federal authorities, rather than with

their co-operation.”<sup>1</sup>

The author goes on to note:

“The radio of the Detroit police first began to function properly in 1928. The following year this department utilized the short wave for police purposes for the first time in the United States. During the early years of police radio when broadcasts were on the commercial broadcast band, the officers were occasionally accused of using the radio to hear the results of baseball or football games. This abuse, however, was not long-lived and appeared to be the exception rather than the rule. In 1929 there were 22,598 broadcasts.”



Radio collectors and restorers frequently note a police band just above the broadcast band on the AM and shortwave dial. Initially police got a separate allocation at 1700 KHz, and then also at 2+ MHz. So people at home, especially at night, could follow all the local cops- and- robbers action; after all, a 1930s “crime wave fueled the development of one- and two-way radios.”<sup>2</sup>

The Midget radios of the 1930s frequently featured the police band, such as this Silvertone, again, home entertainment at its best, real-time audio:



According to a addendum in the 1930s publication *Radio Log*, California Police Departments joined-in in the policework in the ether:

San Bernardino, California, KSBC operated on 1712 KHz

San Buenaventura, CA, KACN operated on 2414 KHz.

San Diego, CA, KGZD was on 2490 KHz.

San Francisco, CA, KGPD radiated on 2466 KHz.

San Jose, CA, KGPM operated on 2466 KHz.

By 1933, police cars began to get AM transmitters as well as receivers. This facilitated coordination. The image below from IEEE is captioned:

*Robert Batts (left) and Detroit Police Officer Kenneth Cox show off the one-way radio system they built [for the Detroit Police Department in 1928 – note Burgess “B” batteries]. (IEEE caption, see endnote below).*



After World War Two, police mostly moved up to VHF and FM, but a few departments stuck with AM and Medium Frequencies (MF) for decades.

One police historian<sup>3</sup> traces police radio back to marine radio-telegraph:

1916 New York Police Department (Harbor Police) use Marconi Spark Transmissions to transmit to police boats and ships in the harbor. WPY is possibly the callsign.

1918 Radio Telegraph in use by NYPD for harbor communications.

1921 Detroit PD experimenting with a transmitter and one radio cruiser, a model T Ford.

1922 Detroit PD is transmitting and issued provisional-commercial license KOP. (DPD faced obstacles: the Federal Radio Commission refused at times to renew license because they insist KOP should be broadcasting entertainment with interspersed police calls).

1923 Pennsylvania (PA) State Police establish a statewide radio-telegraph network (on 250 KHz).

1925 The International Police Conference held in NYC: proposes a system of dispatching "police alarms" by radio to outlying stations.

1926 The NYPD featured in a story titled: "Battling Bandits by Broadcasting," reporting that NYPD is experimenting with broadcasting "police alarms" by radio to fixed points from WNYC (But WMAC was unhappy with sharing 570 KHz with WNYC).

Until radio-telephone came into play, most police communications used Morse code CW. Morse code was widely known as a result of marine radio service, scouting, World War One army and navy service, and amateur radio operation. In New York, the Morse code pro-signal "K" at the end of a transmission, meaning, "over, go ahead" is still spoken by NYPD dispatchers. So to in England, police radio primarily used CW Morse:



(UK Police Radio, 1931; note National HRO receivers).

Police radio stations ran kilowatts of AM (and later FM).

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“WLAW”

POPULAR RADIO

November, 1923: notes station WLAW



Keystone

IN THE BROADCASTING ROOM AT POLICE HEADQUARTERS  
*New York City owns one of the most efficient radio stations in the country, WLAW; the uses of it, however, have not begun to be realized. Receiving apparatus has been installed at headquarters of each of the five boroughs.*

The De Forest companies got some of this business:



National Radio News photo, Feb. 1931, Vol. 3, No. 7

DeForest, 5000 watt transmitter at Michigan State Police Barracks, East Lansing, Michigan.

Police radio became a high-tech depression career opportunity, for example, featured in the National Radio News of the National Radio School:



This issue ran a story: “*and now – Radio Aids In Crime Prevention*” (pages 8 & 9), with a graphic collage about police radio station KGPC in St. Louis, MO:



Radio for police work captured the popular imagination, from Detective Dick Tracy's wrist radio in the Sunday comics, to "Car 54, Where are you?" on television. The Parker Brothers issued the board game appearing above: "Calling All Cars." One long-running comic was *Radio Patrol*:

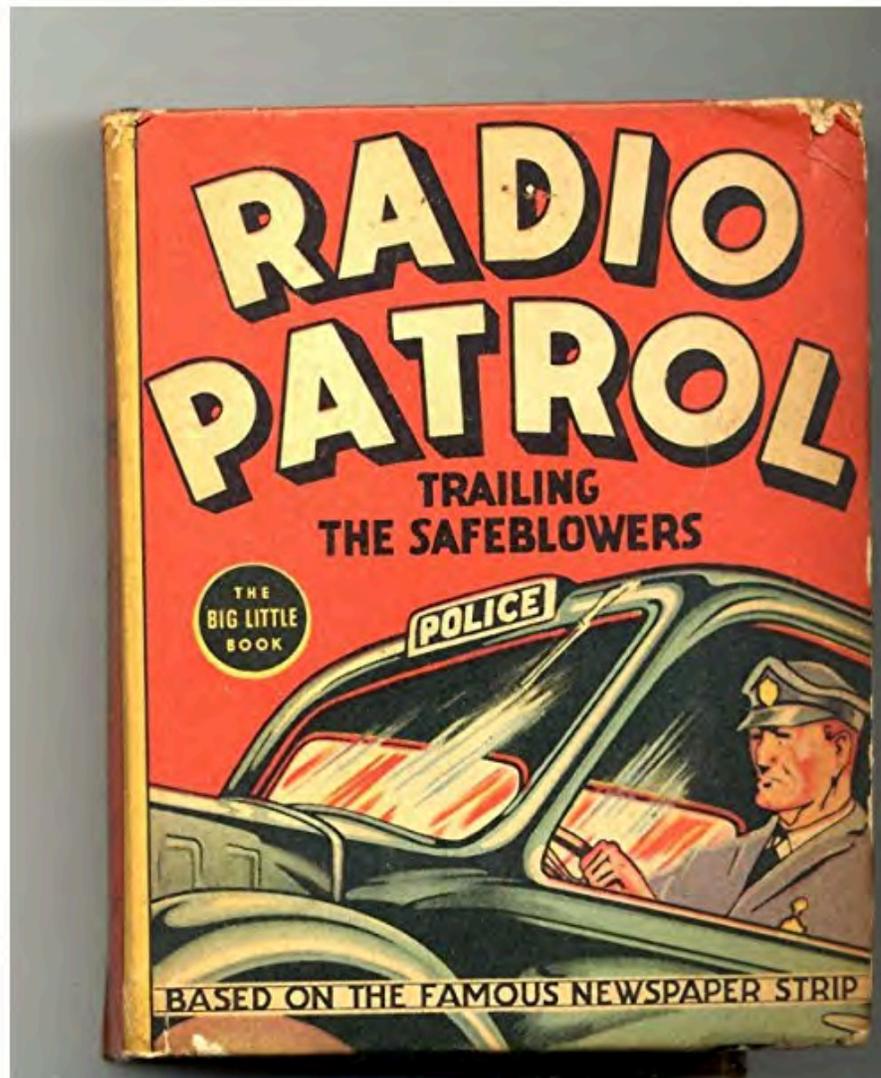


According to the wiki:

**"Radio Patrol** was a police comic strip carried in newspapers from 1933 to 1950 in the dailies, with a Sunday strip that ran from 1934 to 1946. It was created by artist Charles Schmidt and writer Eddie Sullivan, who both worked for the *Boston American*. Sullivan was a newspaper reporter who specialized in crime reporting. \*\*\*

"As with other strips of the period, *Radio Patrol* was adapted into different media, including a 1930s radio show. The 12-chapter Universal Pictures movie serial, *Radio Patrol* (1937), starring Grant Withers as Pat [the main protagonist police officer, on the right in the illustration], was directed by Ford Beebe and Clifford Smith." <sup>4</sup>

Juvenile fiction followed suit:



Police radio soon became very big business; Motorola claimed to have silence ignition noise in 1936 with the “Magic Eliminator”. After the War it went to FM:

**YOU CAN GET** The Widely Used and Acclaimed

**Motorola**  
F-M POLICE RADIO



**M**OTOROLA Communications Equipment is still available to all Law Enforcement Bodies who are serving Defense Plans and Arms. Delivery is made through the Defense Supplies Corporation Radio Reserve Pool—and we will assist you in every way in the procurement of the kind of 1-Way Radio System which every important state and city have selected after exhaustive tests, in which all other available equipment was given due consideration.



**M**OTOROLA outside users have recently been installed in California and Michigan... complete systems that provide unexcelled radio communication efficiency and flexibility. Motorola Electronic Engineers have planned every important phase of Mobile and Portable FM and AM emergency code telephone equipment—and when the war broke out ready with equipment that was quickly put into government, state, county and municipal service. If you need equipment it will be to your advantage to investigate and consider Motorola NOW!

**THE ARMY-NAVY "E"**—Awarded for excellence in the production of Communications Equipment for America's Armed Forces

**Motorola Radio Communication Systems**  
Designed and Engineered to Fit Special Needs  
**GALVIN MFG. CORPORATION - CHICAGO**

The ST. LOUIS POLICE DEPT. recently completed the changeover to Motorola FM 2-Way Radiotelephone. During the past five years four out of five police radio installations have been Motorola equipment.

**THERE'S A REASON**  
for the big swing to *Motorola*

The reason is *Motorola's* all-round SUPERIORITY  
Use this check list to COMPARE *Motorola*  
with any other equipment at any price!

In this ad in *The American City* magazine in 1948, Motorola trumpeted Advance Design, Rugged Construction, Proved Performance, and exceptional Overall Cost. Although from a collector's perspective, only a cop could love the radios:



A California Highway Patrol website<sup>5</sup> summarizes its radio history:

Experimentation with radio communications began in 1931. [The] First stations were AM – Base transmit, and mobile receive only. [By] 1933-38 – Allied agencies assisted by dispatching CHP units on shared channels in some areas

[In] 1941 – First [VHF] lowband mobile transmitters ordered (39.78 MHz mobile with AM link back to dispatch.) After December 7, 1941 - CHP expanded radio communication for all mobile units, including transmitters for cars which [expansion] continued through 1943.

By [the] mid 1950's, all communications are FM – Initially on one frequency! Channels [were then] added to meet operational need (Color System) Late 1970's through early 1980's – First VHF highband vehicle repeaters [were] introduced.

Late 1980's – GE RangR radio system introduced - Still in use today!

Mid 1990's – [CHP] inherited former State Police UHF radio system.

1990's through 2000's – Introduction of specialty radios for use with newer allied agency radio systems.

CHP's traditional challenges [are]: Providing statewide two way radio communications with large mobile fleet; Providing portable radio communications; Maintaining effective communications with allied agencies implementing new technologies.

An excellent and detailed history by Geoffrey C. Fors, WB6NVH, “*CHP Radio Systems*” including many photos and graphics of early equipment and operations, is available on the Internet.<sup>6</sup>

An early AM tuning “head” shown there is quite colorful:



Almost all police departments still use FM mobile radio for oral communications with dispatchers, among mobile units and with other departments and agencies. Data is now frequently digital. The CHP can be easily heard anywhere in California. A circa 1941 home radio with the old FM band in the 40 MHz range will pick-up many VHF lowband CHP FM communications, as will any VHF scanner.

(de K6VK 19 XII 18 CHRS) ##

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<sup>1</sup> (Joseph A. Poli, “*Development and Present Trend of Police Radio Communications*,” 33 J. Crim. L. & Criminology 193, 194 (1942-1943)).

<sup>2</sup> According to IEEE: (theinstitute.ieee.org/tech-history/...history/the-prohibitionera-origins-of-the-police-radio).

<sup>3</sup> “*Police Radio Dates*,” Compiled By Lt. Harry Blesy (Retired) [River Forest, IL PD]).  
<http://rfpd.tripod.com/id18.htm>.

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<sup>4</sup> [https://en.wikipedia.org/wiki/Radio\\_Patrol](https://en.wikipedia.org/wiki/Radio_Patrol).

<sup>5</sup> [http://www.napco.org/documents/2013-10\\_Keynote.pdf](http://www.napco.org/documents/2013-10_Keynote.pdf).

<sup>6</sup> <http://www.wb6nvh.com/CHP/CHP1.htm>.

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