K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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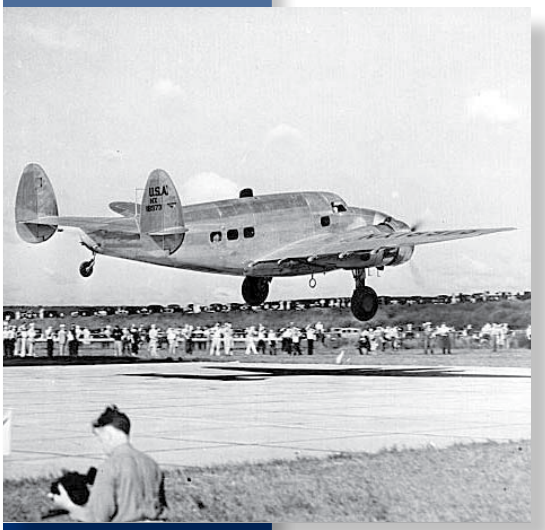

Howard Hughes, 5CY

Around the World Aboard New York World's Fair 1939

Philip Cala-Lazar, K9PL

The Consolidated Radio Call Book, May 1922: 5CY…. Howard Hughes, Jr., 3921 Yoakum Blvd., Houston, Tex.

Of the 20th century's bigger than life personalities few were as celebrated during their lifetimes as Howard Hughes (1905-1976), 5CY/W5CY. Scion of a wealthy family, Hughes set his substantial imprint on the fields of technology, medicine, aviation and motion pictures, all the while increasing his large inheritance many times over and enhancing his playboy reputation.

In 1938, as part of the publicity lead-up to the 1939 New York World's Fair, Hughes, already the holder of aviation speed records accomplished at the controls of his H-1 competition monoplane announced his intention to fly around the world. In addition, Hughes, ever desirous to make his mark in aviation, knew the international goodwill and prestige lent by the New York World's Fair imprimatur would ease overflight clearances in a world beset with prewar fears and security concerns.

"…bigger than life…"

The aircraft chosen for this adventure was a Lockheed 14 Super Electra (NX18973), named *New York World's Fair 1939*. This was a 12-passenger, low wing monoplane, powered by two, modified, supercharged nine-cylinder, air-cooled, Wright G-102 Cyclone, 1,100 hp radial engines (760 hp in the production version). Other modifications included fuel tanks mounted at mid-fuselage boosting the standard version's 650-gallon capacity by 1,200 gallons. The *New York World's Fair 1939* cost $125,000 as modified. The Super Electra along with the Douglas DC-3 and Boeing 247 did much to modernize and mainstream air travel in the 1930s.

As we've seen for much of that era's cutting-edge endeavors communications were entrusted to experienced amateur radio operators. The October 1938 issue of *QST* named the hams integral to the success of the Hughes flight.

Charles Perrine, W6CUH, "remotely-controlled" Hughes' flight headquarters located at the site of the New York World's Fair in Flushing, N.Y. Perrine, author of many *QST* technical articles, was assisted by Ralph "Tommy" Thomas, W2UK, Edison Award winner who after WWII was much honored for his VHF/UHF experimentation and David Evans, W4DHZ. The three official ground stations were equipped with "regular amateur transmitters" and National HRO receivers: four receivers at the World's Fair station, W2GOQ (Perrine) and two each at W2UK, Quogue, L.I., N.Y. (Thomas) and W6CUH, Hermosa Beach, Calif. (Evans).

At each of the three ground stations one HRO receiver was tuned to the aircraft's frequency and the other HRO receiver was tuned to "exactly 7,000 or 14,000 kc." Using that technique permitted the three ground stations to concurrently communicate between

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Inside This Issue…

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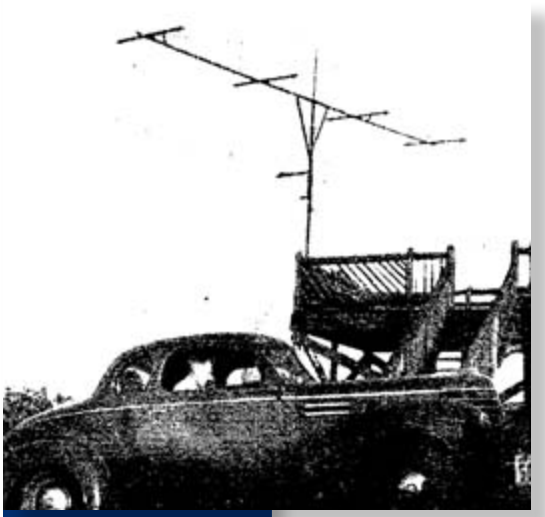
VHF Historical Notes - Part V

The Final Chapter

Kevin Kaufhold, W9GKA



W3AC/3, leading station in the Relay operating from his Plymouth coupe at High Point Park, NJ (alt. 1,800 ft.).

In many ways, the ARRL UHF Relays and Marathons were the predecessors to our present-day VHF contests. Perhaps most importantly, these events developed into serious efforts at exploring propagation and developing communication abilities at ultra-high frequencies. The first "U.H.F. Field Day and Relay" occurred on September 9-10, 1939. Drawing upon UHF tests and relay methods developed earlier in the decade as well as in the successful FD operations on 56 Mc, any amateur was invited to participate, whether fixed, portable or mobile. The contest announcement even noted: "get set for a second F.D. dedicated to the ultra highs!"[1] Distance points were given for the contacts as well as points for message origination and relays. The objective was to relay messages "away from their starting points by town-to-town hops."

"Goyn operated… from his Plymouth coupe."

Some stations set up at high points and mobiles at halfway places, and thus were in a position to bridge gaps in relay traffic routes. The longest relay route went from the east coast to Chicago, for a total distance of 1,000 miles, involving 11 stations. The fastest route went from W1HDQ in Massachusetts to W3DBC in Washington, D.C., covering 325 airline miles. The message was sent and returned in 8 hours 22 minutes. Detailed descriptions of numerous routes were contained in the contest write-up.[2] 28 stations submitted a report, although it was obvious from the results that many more participated. All activity was on 56 Mc. The leading scorer was Goyn Reinhardt, W3AC/3, who operated from High Point, New Jersey. Strapping a four half-wave collinear array to the side of a patio, Goyn operated portable from his Plymouth coupe. The antenna was an adaptation of a design by Ross Hull. The transmitter was a self-controlled oscillator running 45 watts to a pair of 807's. Reinhardt amassed 308 points. [3]

In recent years, this UHF Relay has been commented on several times. In a 30-year retrospective of VHF contesting, it was noted that: "This affair was the first ARRL sponsored v.h.f. contest and it turned out to be the grandfather of our present V.h.f. SS and QSO Party systems." [4] In another wonderful retrospective article, two mountain-top vhf operators were operating from High Point State Park, N.J. in the September 1994 VHF QSO Party, the very same spot as the first UHF Relay. They asked a local visitor for help in locating extra VHF radios for use in the operation. He soon came back with a friend – it was none other than Goyn Reinhardt, who lived nearby! By that time being 87 years old and having the call W2AF, Goyn carried along his original transmitter from 1939 and an extensive scrapbook of pictures and mementos! Contest activities came to a quick halt as the two operators recognized the historical significance of the occasion. [5]

Back to the early years of contesting, the UHF Relay format was so successful that "UHF Relay Number 2" was held in November 1939. A much greater volume of traffic was handled than in the first relay, and over 94 stations submitted logs. Skip occurred during the event, allowing a "surprising" number of messages to reach their destinations. The longest route, from Boston, Massachusetts to Chicago, ran 1,150 miles, and involved 11 operators (see the route, below, described in the Feb. 1940 *QST*). W3AC/3 was again the leading scorer, with 40 contacts and 408 points. For the first time in any UHF organized event, 112 Mc was used for several of the relays. [6]

The relays settled into a quarterly pace from there. A large turnout occurred for the Third UHF Relay, held in February 1940. W3AC/3 continued his leading scores, again from High Point, N.J., working 32 stations and scoring 370 points. A large percentage of relays were delivered, and many made a complete return route as well. 112 Mc was again used for some of the relays, and for the first time in a Relay event, messages were sent on 224 Mc. [7] The fourth Relay held in May, 1940 had 500 to 1,000 mile skip

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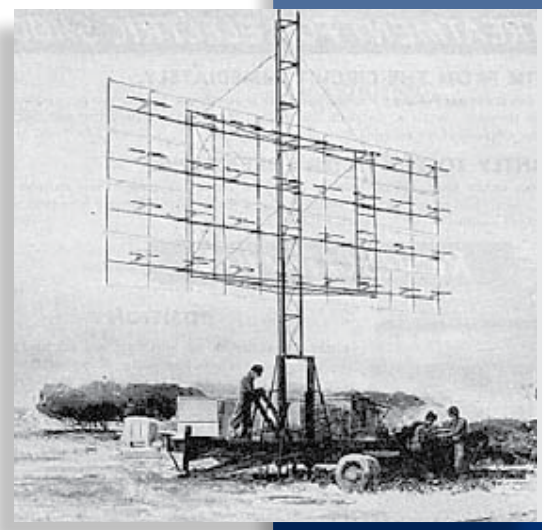
contacts, allowing for an amazing 1,800 mile relay route between Tucson, Arizona and Orlando, Florida. For the fourth time in a row, W3AC/3 took high honors, with 34 contacts and 384 points.[8] The fifth UHF Contest took place in September 1940, but had an absence of "DX-skip" communication. 112 Mc was used to a greater extent than before. W2DKJ/2 took the top place with 50 contacts on 56 Mc and 112 Mc, and 858 points. Relays were developing into a "practical and efficient system". In the sixth UHF Contest held in December 1940, states worked were also noted in the reports. W3HOH led the event with 53 contacts on 56 Mc and 112 mc, 6 states worked, and 4,164 points. An extra multiplier was given for CW, and many of the stations primarily relied upon code for the relays, as a result of the multiplier. Several of the relays were accomplished only because of the use of CW, given the marginal band conditions.

The seventh UHF Relay had no contest write-up, and the eighth Relay had only a small box score, without extensive discussion. W2BZB led with 75 contacts on 56 Mc and 112 Mc, with a total score of 256 points. The ninth UHF was described as a "Round-Up" and was held on Nov. 1-2, 1941. It also did not have any contest write-ups that could be located.

The League sponsored "UHF Marathons" in 1940 and 1941. The then four VHF bands of 56, 112, 224 and 400 Mc were included in some of these contests, although most of the contacts took place on the lower two bands. The Marathons ran for an entire year, with monthly awards for high point scorer of the month, and then a cumulative award for high scorer on each band. QSO points were provided for various distances and bands. A separate award was given for working the most states throughout the year on each band. While Marathon contestants were automatically entered in the worked all states competition, an operator did not have to compete in a Marathon to qualify for the states award. Contacts achieved in a UHF relay would also count towards that year's Marathon.[9] The last pre-WWII Marathon was actually stopped by U.S. entry into the war on December 8, 1941 after attracting around 80 entrants from all over the country.

> *"…foreign amateur contacts were banned…"*

Several achievements occurred in the 1940 Marathon. The first 224 Mc contact in any contest occurred in the first month's Marathon, in January 1940. In that event, W1AIY made one QSO on 224 Mc, one month ahead of the frequency initially being used in the UHF Relay. W1HDF set a distance record on 224 Mc in May, 1940 (13 miles), while another participant in the Marathon, W6IOJ began a series of distance records on 224 and 400 Mc, with a 135 mile contact on 224 Mc in August, 1940 and an 11 mile QSO on 440 Mc in September, 1940. Ten different ops won the 12 monthly certificates (W3HOH won three times). The national high score was established on 56 Mc by W5AJG with an incredible 166 contacts. The high score on 112 Mc was set by W6RVL, at an even greater 191 contacts, and the 224 Mc high score was made by W6IOJ, with four QSOs. The states awards went to W9ZJB, 27 states on 56 Mc; W2DZA, five states on 112 Mc; and three amateurs on 224 Mc with two states, W1AIY, W1HDF and W1KLJ. [10]



Radio Set SCR-270-DA

In 1940, foreign amateur contacts were banned, as the war in Europe expanded. Portable and mobile operations below 56 mc were also prohibited, although an exception was allowed for Field Day exercises. The U.S. government assigned Raytheon to work with MIT in developing microwave type tubes. The U.S. Army Signal Corps had been conducting secret radar experiments since 1930 at Ft. Monmouth, N.J., even having an army colonel hold the basic patent for U.S. radar. The Army Signal Corps encouraged Armstrong's FM system, which assisted army mobile communications.

In 1941, Clavier used 3,000 Mc for tests on tropospheric scatter. U.S. amateurs did not being work on the 3,300 Mc band for an additional 14 years, until after WWII.

The 1941 Marathon added multipliers for FM and above 400 Mc work, as well as providing monthly credit for minimum regular activity. The most states award was also maintained.[11] W6IOJ and W6LFN made the first contest QSO on 400 Mc in the January 1941 UHF Marathon over a distance of 20 miles.[12] It was a DX record on the band at the time. W6IOJ continued breaking records during the year, with a 60-mile contact on 400 Mc in September 1941. There

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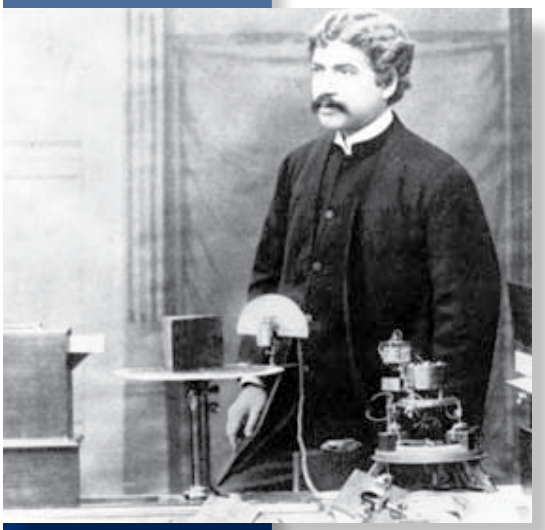
J. C. Bose, Father of Radio?

John Kirk, VK4TJ



Bose demonstrates his apparatus to the Royal Institution, London, 1897.

Pop quiz time again, boys and girls. In radio work, which came first – tubes or solid state? You probably answered, "Why, tubes of course!" Hah! You'd be dead wrong. Solid-state detectors were first employed in 1895. The Fleming Diode Valve (tube) didn't come along until 1904, and didn't become really useful until three years later, when De Forest added a grid to it. It's actually a trick question, since semiconductors have occurred in nature since the beginning of time, but let's confine ourselves to deliberate, informed, methodical uses only, shall we?

OK, so you didn't fare so well on question 1: Did you? See if you can redeem yourself on question 2: Hands up, all of you who have heard of Sir Jagadis Chandra Bose? No? Not doing very well, are you? As a radio amateur, you owe a very large debt to this man, so let's see if we can assign him his rightfully earned perch in radio lore.

Bose was an India-born, British-educated naturalist, medical student and physicist. Much of his experimental work took place in his classrooms at Presidency College, Calcutta, where he was said to be a popular and effective professor of physics. He was a contemporary of Hertz, Lodge, Fleming and Marconi, and was particularly interested in the behaviour of millimeter waves. In 1896, well before Marconi stuck his oar in the water, Bose demonstrated at least two potential commercial uses for wireless by exploding gunpowder from the safe distance of one kilometer, and ringing a bell.

> *"…ringing a bell."*

Obviously, he could not scavenge microwave detector diodes from defunct satellite down-converters and radar detectors like we do, because diodes hadn't been invented yet, so he set out to discover them. His lab notes reveal meticulous, exhaustive experiments with dozens of various semiconducting materials to find the ones best suited to his needs.

Did he understand enough about solid state physics to understand the implications of his work, or did he simply fluke it, like thousands of "cat's whisker" crystal set experimenters that followed in his footsteps many years later? His lab notes suggest the former. In them, he makes unambiguous classifications of "P Type" and "N Type" materials, and notes that his diodes do not conform to Ohm's law, speaking of "negative resistance," a term now much in vogue to describe the action of Gunn and IMPATT diodes.

As well as the first semiconductor detector, Bose is credited with inventing:

- waveguide
- horn antennas
- dielectric lenses
- polarizers
- beam collimators
- split prism attenuators

and worked at frequencies as high as 60 GHz, but you DC-banders have something to thank him for as well – the mercury coherer, another form of solid state detector, without which Marconi's experiments with "wireless" would have never amounted to more than a cute parlor trick.

As a lad, I remember reading a biography of old Guglielmo (who would name their kid that!) Marconi. In chapter 2, he is mucking about with "sympathetic arc" detectors (for lack of a better term) circa 1896. You don't have to know much about radio to see that he is not going to get far, literally or figuratively, with this approach. Yet in 1903, he rocks up at Poldhu, Cornwall, UK, with a vastly superior detector with several orders of magnitude better sensitivity than that which he started out with. The truth is that, in the interim, he had attended a lecture by none other than our friend JC. Marconi even incorporated Bose's coherer in some of his own later patents without ever crediting his source. Bose, ever the scientist, was far more interested in the theoretical footings of physics than taking commercial advantage of his own work, so let the insult pass, as well as the opportunity for immortality.

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What Hath God Wrought?

Sam's Legacy is Eternal

Rod Newkirk, VA3ZBB/W9BRD

My first encounter in the mid-1930s with Morse code was brief and ill fated. My code buddy's older brother ran a wire between our houses powered by a Lionel train transformer. We fashioned wood and wire keys to light Christmas tree bulbs. This line worked well but we painfully wrote out the dots and dashes for later deciphering. My buddy kept forgetting to close his key to complete the circuit. We must have been doing all of 1/2 word per minute.

This lasted a couple of months before the novelty wore off and my buddy switched his main interest to chemistry. A few years later I determined to become a ham. This time I took a more businesslike approach to the code. By then I had a receiver and ARRL's W1AW became my code buddy, along with other super-slow CW I ran across.

I disregarded punctuation, finding that periods and commas just slow you down. You need only three punctuations anyway - the question mark, the slant bar for mobiles and portables, and the double-dash - . . . - to separate your thoughts. It was a red-letter day when I copied my first callsign on 40-meters, W8OTO who gave his location as McKees Rocks, Pa. The Callbook confirmed my copy. W8OTO has long been a Silent Key but I've had the pleasure of working his nephew who now signs W8OTO.

FISTS and SKCC are to be commended for helping to keep a grand old art form alive and well. They're going about things the right way, keeping things interesting. I sometimes monitor the FISTS calling frequencies and note people steadily increasing their CW capabilities. Unproductive habits do show up. We all should post RST and the Q codes at our operating positions. RST is widely abused in contest work. You'll be surprised as I was to learn that R3 is solid copy.

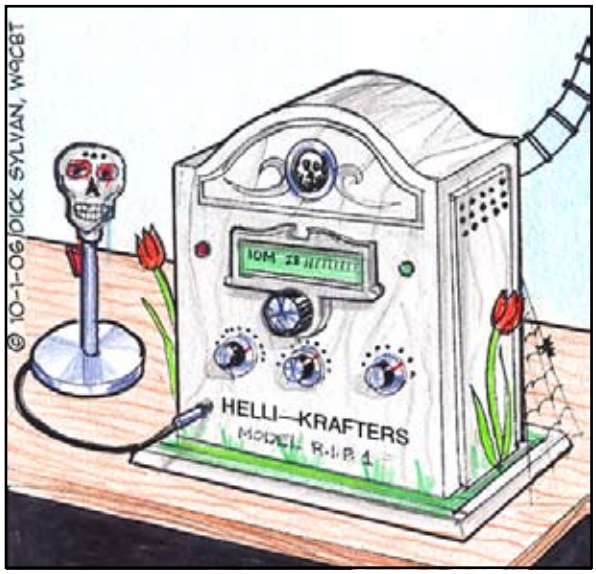
I had a long trip to school each day so I would spell out all the signage in code. Just before I was about to go downtown and try for my ham license FCC raised the CW requirement for amateurs from 10 to 13 WPM. That meant I had to do 15 WPM just to be sure. If the FCC expected to decrease the number of ham applications it didn't work. Their office was jam-packed with hams-to-be.

About Q codes, they're an excellent tool to increase your effective code speed. Remember they're complete statements or questions not requiring IS, ARE or UR. HW CPY NW is simply QRK? or QSA? in steps of 1 through 5. BK2U is adequately covered by .-.-. Keep in mind that spaces are characters. Speeding up by leaving them out results in gibberish.

Modem computer users fill their texting with quaint abbreviations but hams did this long ago. Abbreviations can be overdone. The Phillips code of abbreviations can raise a good telegrapher's effective speed to around 100 WPM. But a story goes around concerning POX, the Phillips abbreviation for police. One hotshot OM, expanding his abbreviated copy, declared that Massachusetts was anticipating a possible epidemic of small policemen. ■

Ham Quips

DICK SYLVAN, W9CBT



HELLI-KRAFTERS RIP-1 FOR DEAD BANDS

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were eight monthly winners with three amateurs winning two or more months in 1942. The national high score was achieved on 56 Mc by W8CIR, with 131 QSOs and 2,416 points. The high score on 112 Mc went to W3HOH, amassing 425 contacts on that one band. The high score on 224 Mc was achieved by W2DZA, with five contacts. W6IOJ took top honors on 400 Mc, with two contacts, both of which were DX records at the time! Most states worked in 1941 on 56 Mc went to W2BYM, at 30; on 112 Mc, five stations at seven states each; on 224 mc, W2DZA, with two states.[13]

As of December 1941, UHF distance records were 2,500 miles on 56 Mc; 335 miles on 112 Mc; 135 miles on 224; and 60 miles on 400 Mc. Both the 224 and 400 Mc records were set by mountaintop stations in California, where much experimentation on the ultra-high frequencies was underway.

That is where amateur DX ultra-high records stood in late November 1941 when an SCR-270-B Army Corps radar unit operating on 106 Mc had just been installed at the Opana Radar Station on the north shore of Oahu in the Hawaiian Islands. Two weeks later, on December 7, 1941, two Army Air Corps privates detected a huge movement of airplanes some 130 miles away. This was the first wartime use of radar by the United States military. But given the newness of the installation and the equipment, the radar was thought to be either faulty or possibly tracking B-17s en route from California air bases. Fifty minutes later, the first Japanese bombs fell on Pearl Harbor.[14] Only after the initial attack was it realized the radar unit worked successfully and spotted the first wave of Japanese attack airplanes. The episode is one of the great "what ifs" of military history.

The U.S. declared war the next day. Amateur radio stations immediately went off the air. Massive support for the war came from the amateur community. Of the 60,000 amateurs licensed in 1945, 25,000 served in the armed forces during the war, and another 25,000 served in critical war industries or as instructors in military schools. Amateurs also used their skills at home in the War Emergency Radio Service (WERS) with 112 Mc activity dedicated to the war effort. [15] ■

(Endnotes)

1 *QST,* 9-39, p. 33.

2 *QST,* 11-39, pp. 26-27+.

3 *QST,* 11-39, pp. 26-27; 6-67, p. 66. Photo: *QST,* 11-39, p. 27.

4 *QST,* 6-67, p. 66.

5 "Echoes of the Past," *QST,* June 1995, pp. 48-49.

6 *QST,* 2-40, pp. 52-54. Photo: p. 53.

7 *QST,* 6-40, pp. 44-45.

8 *QST,* 9-40, p. 32.

9 *QST,* 1-40, pp. 26-27.

10 *QST,* 3-41, p. 53.

11 Rules at *QST,* 1-41, pp. 24-25.

12 *QST,* 4-41, p. 53.

13 *QST,* 2-42, p. 40.

14 Radar device at Pearl Harbor: **http://www.infoage.org/pearl.html**

15 *QST,* 1-2000, p. 31.

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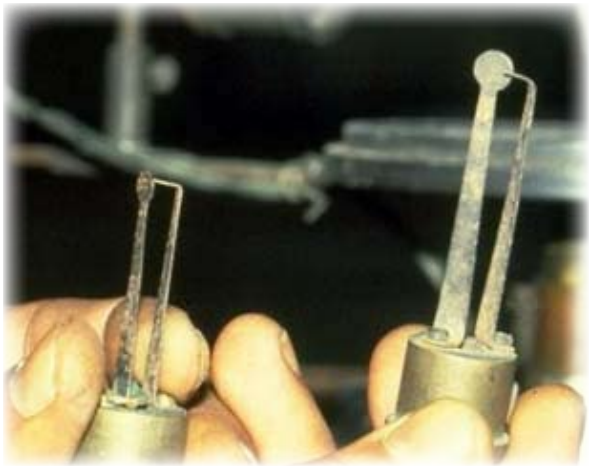
Bose was also the first to theorize that ole' Sol was in fact the biggest radio emitter on the block, not confirmed until 1942, when early radar experimenters finally cobbled together a decent enough microwave receiver to detect sun noise.

In his later years, Bose returned to his roots (sorry!) in tree science, making important contributions to the theory of rising sap and response phenomena in plants. In 1917, he received a British Knighthood for all of his contributions to science (not just radio!).

His early notes and apparatus are beautifully preserved today at the Bose Institute in Calcutta. ■



You're looking at potentially serial numbers 1 & 2 in the 100-year+ lineage of semiconductors. These are point-contact microwave diodes made by Bose for use in his experiments.

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CONTINUED - HUGHES FROM PAGE 1

themselves and the Super Electra. Beam antennas were used at all three stations so that "the plane was usually on the line of at least one of them."

At the Flushing site the 618-foot tall Trylon supported some of the Hughes flight's radio antennas. The Trylon was one of the Fair's two iconic structures, the Trylon and Perisphere.

In addition to all other in-flight communications the ground stations supplied daily weather reports requiring "about six hours each day of nearly steady copying (at about 30 w.p.m.) by the operators at W2GOQ, with W2UK standing by at all times in case of local QRN."

It was not only amateur stations that tuned in to the "Hughesflashes," but commercial broadcasters CBS, NBC and MBS (Mutual Broadcasting System) competed to get the news out first. CBS's costs to cover the flight were estimated at $15,000-$20,000; NBC, $12,000; and MBS, a paltry $1,500.

Hughes was a perfectionist, often to the point of obsession, and so, for this flight nothing was left to chance. The Lockheed, call sign KHBRC, carried two transmitters and two receivers aloft. The primary transmitter, a 100-watt Hughes Aircraft Company unit, and its backup, a 100-watt Bendix transmitter, excited an adjustable trailing wire antenna passing through the Lockheed's tail cone and terminating in a "rubber wind sock." The Hughes transmitter provided 18 crystal-controlled frequencies 333 kc. to 23,100 kc. with A1, A2 and A3 modes available. The Bendix unit duplicated eight of the primary rig's frequencies. Two Bendix superheterodyne receivers covered "both low and high frequencies for general communication and for use with the Bendix loop unit." To aid navigation a Fairchild loop receiver was used with a Kruesi radio compass.

The trailing antenna was fed with 100 ohm "concentric line." Deployed at odd numbered quarter wavelengths a mechanism displayed the trailing antenna's length: "the directivity characteristic of long-wire antennas were employed to boost the signal at various times." *Time* magazine claimed the transmitter's 100-watt signal was boosted to a *250 watt* equivalent.

Also carried aboard the Hughes plane was an emergency set including a 15-watt CW transmitter with four crystal-controlled frequencies ranging from "500 to 16,000 kc" and a separate receiver. For power the set relied on batteries or a hand-driven generator set. "The complete emergency station, including key, headphones and antenna, was enclosed in a waterproof container 15" X 8" X 10". A kite and a balloon were available to raise the antenna in case no other support was available."

All this radio gear weighed 3,000 pounds pushing the Super Electra's gross weight to 25,897 pounds. For this aircraft, with 551 square feet of wing area, that equaled a heavy wing loading of 47 pounds per square foot.

Chicago Daily Tribune, July 8, 1938
HUGHES' SHIP 'LAST WORD' IN FLYING SAFETY
3 Radios Permit Contact During Entire Flight
Hughes' Lockheed was fully equipped with the latest in avionics, in addition to three "two-way" radios, there were "Kolsman and Pioneer compasses, Sperry directional gyros and artificial horizons, and special navigation and timing devices built by Longines."

Hughes said two of his objectives are a test of new equipment and an attempt to create a bond of friendship between foreign and American aviators as exists between radio amateurs. At 12 Hughes was an enthusiastic "ham." He will invite foreign aviators to participate in the world's fair.

The plane departed from Floyd Bennett Field in New York on July 10, 1938 with Hughes and his four crewmates: Harry P. Connor, copilot and navigator; Lt. Thomas Thurlow, U.S. Army, navigator; Richard Stoddart, radio engineer; and Edward Lund, flight engineer.

Flight Waypoints

New York-Paris….3,641

Paris-Moscow……1,675

Omsk-Yakutsk…...1,380

Yakutsk-Fairbanks…2,456

Fairbanks-Minneapolis….2,441

Minneapolis-New York…1,054

Chicago Daily Tribune, July 11, 1938
5 FLYERS HALF ACROSS OCEAN
Communications between the flight and its headquarters located at the World's Fair site in Flushing, N.Y. delayed one hour as repairs were made to its broken trailing antenna.

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Chicago Daily Tribune, July 15, 1938
DESCRIBES WORLD SKY RIDE

Arriving to the acclaim of a welcoming crowd of 25,000 at Floyd Bennett Field, Hughes and his crew spectacularly completed their 14,824-mile flight in 3 days, 19 hours and 17 minutes. This beat Wiley Post's (one of Hughes' aviation heroes) 1933 15,596-mile record of 7 days, 18 hours and 49 minutes by 3 days, 23 hours and 32 minutes. For their record setting flights Hughes averaged 208.1 mph and Post 127.43 mph.

In recognition of this flight Hughes was awarded a special Congressional Gold Medal (1939), the Collier Trophy (1938) and his second Harmon Trophy (1936 and 1938).

Time, July 25, 1938
Radio: CQ-KHBRC

Despite concerns about propagation due to sunspots and a northern circle route "notably poor for radio transmission," the Hughes flight enjoyed excellent communications throughout its duration.

In flight Stoddart "adjusted the length of trailing antenna, controlled at will the direction of the radio beam he was transmitting. He had achieved in the design of his transmitter an efficiency formerly impossible in airplane radio" and "Altering the length of the harmonically operated antenna gave his radio beam virtually any direction he chose."

Howard Hughes is pictured as he emerges from his Lockheed 14 Monoplane at Floyd Bennett Field in Brooklyn at the conclusion of his record setting around the world flight in the summer of 1938. To the far left of the photo is Hughes' radio engineer on the flight, Richard Stoddard. The man at the far right with the polka dot bow tie and mustache waiting to greet Hughes is Grover Whalen, the president of the 1939 New York World's Fair. The Fair was one of the sponsors of the flight.

Typical of prewar news items, this *Time* article did not shy away from technical jargon:

When sending to a station out of direct line of flight, reeling in the antenna changed the beam's direction. For a long antenna sends short-wave signals close to its own line; a short wire fires the signals broadside. A rigorous test of this transmitter was one of the chief purposes of the flight. It stood the test.

Commenting on Hughes' longtime enthusiasm for radio: "At twelve he made his first radio transmitter out of the family doorbell."

Chicago Daily Tribune, September 4, 1938
1,800 RADIO HAMS FOCUS ATTENTION ON TELEVISION
Hold Their 1st National Meet in 14 Years.

Richard Stoddart was honored at the ARRL's national convention. In 1940 Stoddart founded the Stoddart Aircraft Radio Company located in Hollywood, Calif.

Also feted at the convention was Ted McElroy, W1JYN, winner of the "American telegraphic speed championship."

Speaking of the nearly 2,500 delegates expected to attend: "While few of them have met, they talk to each other in a jargon of letters and numerals." The more things change… ■

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