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GUESS WHO INVENTED WI-FI?

Posted by Dave Hughes on August 31, 2009 at 9:16am [View Blog](#)

Since this item appeared in the early old HUB, it has been 'read' 4,243 times. Seems like it proved very popular - most other of the 182 HUB stories I posted garnered from 10 to several hundred readers. So I thought since Travis and Tim ported some of my scribbles over here from the Hub to Fresh-Ink, I might as well pull over one of the more popular. Besides the youngsters on Fresh-Ink could use a little 'technical' education in where the things they use came from. Grin

GUESS WHO INVENTED WI-FI?

Contributed by: Dave Hughes on 3/24/2007

You are not going to believe this. But it's true. And I was the guy who gave the Inventor of Wi-Fi (and all the wireless technologies used for secure Military Communications for 50 years since WWII,) world fame.

That wasn't hard - getting media attention to the Inventor - for she was called, in 1940 - the Most Beautiful Woman in the World. Hedy Lamarr! Yes, the 1940s actress Hedy Lamarr, with whom I, at 13 years old, was in love.

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DR. EINSTEIN'S GRAVE STONE

by Tanja Britton
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DR. OTTO EINSTEIN

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HEDY LAMARR IN HER SALAD

DAYS

She invented what?

Well its a long story, but in short, Hedy Lamarr - young Austrian Beauty Hedwig Keisler became married to an Austrian Arms Manufacturer who sold to the Germans. He wanted her only to be a decoration - stand around and look pretty for the German military talking to his engineers. But she had lots more than Beauty - she had an unsuspected stunning 'technical' aptitude in that pretty head. So she stood around and looked pretty but over two years got an OJT - On the Job Training - advanced technical education just by listening and watching!

And she began, at 19 years old, in the mid 1930s long before Americans knew it, to realize the Nazis were evil. Hitler wanted to meet her - but she did not want to. And she hated her older husband who made her a virtual prisoner with a chaperone 24/7. She was already world famous for having played in the film, Ecstasy, in which she swam and ran nude through the woods. Scandalous!

Then she noted that the Germans working with Mandel's engineers had not figured out a way to guide torpedos by radio so they could not be intercepted or jammed. She kept her mouth shut. But was thinking. So one night she drugged her maid, got out the window, escaped to England, was on the stage when Louis Mayer Hollywood Impresario saw her, told her she was the Most Beautiful Woman in the World and he could make her a star. She actually didn't want to be a star. She wanted to do in the hated Nazis by doing technical work.



When she came to America and tried to join the National Inventors Council, she was told America also needed Actors and Actresses to sell War Bonds to help fund the war. She reluctantly became an actress, (but not before she said she would kiss any man who bought \$50,000 in War Bonds. In just one afternoon she cleared SEVEN MILLION DOLLARS!)

So one day in Hollywood she was playing four hand piano with an avante garde musician, George Antheil. George had been virtually run out of Berlin when Hitler took power - so they had something in common - hatred for the Nazis. She stopped

PHOTO GALLERIES



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March 23, 2016 all day - Stargazer's Theatre and Event Center



PINE FOREST SPRING SHOW & SALE

April 23, 2016 at 10am to April 24, 2016 at 3pm - Lewis Palmer High School



JOHN DENVER TRIBUTE WITH JIM CURRY

May 13, 2016 from 7pm to 9pm - Stargazers Theatre

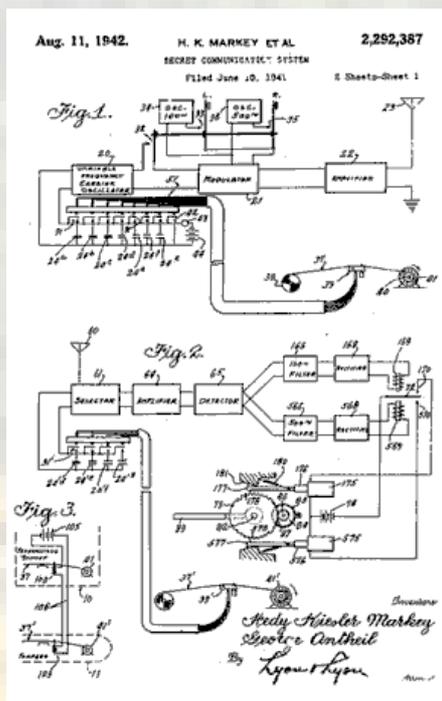
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playing and said "That's the answer to the torpedo problem. We are together, but apart. We are synchronized but independent. " Into her head came the unprecedented - in technological history - idea of FREQUENCY HOPPING.

If you have a radio that can send your signal and a device, that can rapidly 'hop' between different frequencies, and with a radio at the other end running the same pattern, that combination can defeat attempts to jam or intercept your radio messages or signals!

George, being the musician, visualized the 'device' as a piano roll mechanism that could hop hop hop between frequencies while sending. They took out a United States Patent on June 10th, 1941, called 'Secret Communications' and GAVE it to the Navy, who could not make it work in WWII with only a pair of motors and paper tape, trying to be perfectly synchronized. But, in 1958 a Naval engineer took the patent and its 'frequency hopping' idea off the shelf and used a pair of early generation computer chips to 'hop' and 'synchronize' the radios. By the Cuban Missile Crises Naval communications was securely frequency hopped. For 40 more years what became known as 'spread spectrum' and 'frequency hopping' was a classified technology, and were used by the US Military to send and receive secret communications of all types!. And DoD, would not permit the FCC to license civilian radios based on that secure technology. They didn't want bad guys on the West Coast talking securely with Bad Guys on the East Coast in ways even the NSA would have problems decoding. Everybody forgot, or never really knew, who was behind the original patent.



PART 1 OF THE ORIGINAL PATENT - Hedy

Keisler Markey - aka for Hedy Lamarr

In 1985 the FCC was first permitted to license radios using Frequency Hopping but running low power and in high frequency bands called ISM bands. The radios were not only Secure, (they are used in your cordless and cell phones now) but because that technology would permit MANY radios to operate in the SAME 'spread' or slice, of frequencies, without interference with many OTHER radios, they could be UNLICENSED for you to use! That means you did NOT have to get an FCC license to use them.

And neither Hedy Lamar nor George Anthiel expected or ever got a penny for their invention. They were Patriots!

So communications between two spread spectrum radios, using frequency hopping she invented and later refinements called 'direct sequence' could be FREE, not just Secure. NOT like, per minute charged, cell phones. Operating in spectrum that costs

lots of money to license.

I began using the first commercial UNLICENCED radios released in 1990 between my house and my Old Colorado City Internet Office BYPASSING USWEST/QWEST WITH FREE, HIGH SPEED, SECURE, INTERNET COMMUNICATIONS! (Qwest hates the technology, for with, today, Internet VOIP (Voice over IP) such as you can do with Vonage or Skype, from a laptop or PDA you can have FREE voice communications. Perfectly legally) I was the first person in Colorado Springs to do that, and set up an ISP for it.

Fast forward and that evolved, by 1998 into unlicensed, cheap,WI-FI radios which could interoperate between different manufacturer's radios.Digital radio took off. The same ones everyone is now using in their homes with Linksys wireless routers and laptops,at Starbucks or free Cybercafes, or in Wireless ISP networks. By the hundreds of millions all over the world. Giving fits to traditional, circuit switched and wired telephone companies who see the technology as a threat. But all originally Invented by the actress Hedy Lamarr!

In 1990 nobody but me, doing work for the National Science Foundation in experimenting with wireless for rural and remote education. Starting in 1993 by me connecting up a poor school in the San Luis Valley of Colorado, 30 miles across the flat valley to the Internet in Alamosa FREE, with just a pair of radios, while US West wanted \$2,000 a month to connect up that school to the same Alamosa ISPwired! And I worked on scientific data gathering with unlicensed radios in places like the Rain Forests of Puerto Rico,Fairbanks, Alaska,across the deserts of New Mexico, out on Wisconsin lakes, across Ulan Baatar, Mongolia.Only me anda handful of engineers (in places like NASA, Boeing, Air Force - even your GPS device evolved from that patent) KNEW that hers was the FIRST patent.

So I nominated her for the Electronic Frontier Foundation Pioneer Award, and,at 83 she got it! And even got the prestigious Austrian Academy of Sciences KAPLAN AWARD!

She is dead now. Sob. But look what she did for you! Remember her and her lovely face next time you connect up your laptop across the room - or city!

So I am pleased that, in the last years of her life, I helped the love of my young life, Hedy Lamarr, get the recognition she deserved! (a movie was made in Austria about her and that invention. I'm in it)

Some Wag put my mug on Hedy's shoulder, replacing Clark Gable's

You techies can peek at [WIRELESS](#) to learn more (and even click on the word Hedy on the bottom of the home page to get more about her and the patent.



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Comment by [Dave Hughes](#) on August 31, 2009 at 11:39am

Yeah that was a good picture. Dapper, huh? Yes I would like your pictures - they can be kept in our History Center to mark that celebration.



Comment by [Jane Rodgers](#) on August 31, 2009 at 10:20am

Hi Dave, Speaking of pictures [above] How did you like the picture in the Hub of you standing by the memorial that I took of you at the OCC 150th birthday dedication.? I thought you looked real dapper in that photo ! I posted quite a few photos of the memorial in your Hub. If you want a copy let me know. We usually are in the same place at the same time around OCC. My sweetie Lance is your # 1 fan. Loves your history lessons.

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