

SECRETS & SPIES RESEARCH DOSSIER

AUSTRALIAN NATIONAL
MARITIME MUSEUM
**MU
SEA
UM**

HEDY LAMARR

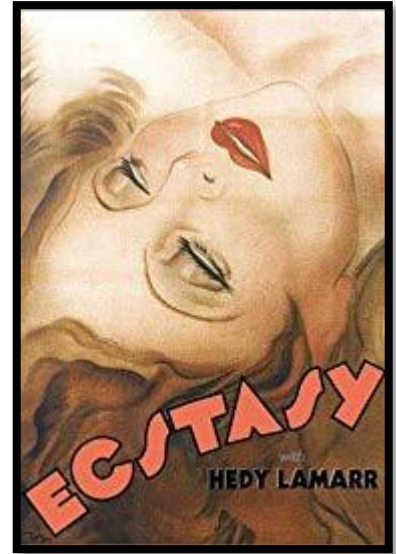
BY ACADEMY OF THE CANYONS, CALIFORNIA, USA

Throughout history there have been many important figures who are responsible for the creation of the technology that we use today. Hedy Lamarr is the creator of technology that would eventually be used in the creation of Wi-Fi and bluetooth. However, her natural acting ability caused society to ignore her inventive mind. Born in 1913, Hedwig Eva Maria Kiesler was the only Austro-Hungarian daughter of Gertrude and Emil Kiesler. As a child, she enjoyed learning about technology. She looked up to her father who encouraged her to be curious about technology and they bonded over the subject. They often took walks together talking about different machines like printing machines and street cars. It guided Hedy so much that when she was around 5 years old, she successfully deconstructed a jukebox and was able to successfully put it back together just because she wanted to understand how the machine operated. Her mother was a pianist and decided to teach Hedy different arts which would eventually introduce Hedy to acting. Due to this, her passion for technology was ignored and she was found by Max Reinhardt who taught her how to act in Berlin and would help her get her first small film (2019, April 17), (n.d.).

LIFE BEFORE THE UNITED STATES:

Before coming to the United States, Hedy Lamarr, also known as Hedwig Eva Kiesler at the time, originally started her career as an actress in her hometown: Vienna, Austria. At an early age, Kiesler had a very brilliant mind that was often overlooked due to her beauty. Because of this, she was soon discovered by a director named Max Reinhardt who started her career in acting. Kiesler initially starred in various small films such as *Gold on the Street* and *No Money*

Needed, until her career grew and took a controversial turn in the film industry after starring in a Czech-Austrian movie named *Ecstasy* (1932). The movie featured the first nude scene in cinematic history which was not well received by audiences and critics all over the world. Due to the controversy surrounding Kiesler's participation in the film, people were often disgusted and heavily disagreed with her actions in the movie. Kiesler continued acting in movies and plays which eventually lead to her meeting her first husband, Fritz Mandl, whom she married in 1933. Mandl was an Austrian munitions dealer, and a very controlling husband who treated her as an object rather than a normal person. Mandl forced Kiesler to host his business parties with people associated with the Nazi party, which led her to eavesdrop on their wartime conversations. From the information she had learned about the meetings, Hedy started to



become interested in military technology. Eventually, Kiesler became extremely unhappy due to her dominating husband, which caused her to flee to London in 1937. In London she met Louis B. Mayer where she was given the opportunity to sign with MGM studios in Hollywood. She declined his initial offer because she believed her \$250 a week salary was inadequate, but regretted her decision. Seeking out Mayer onboard the passage to New York, she flaunted herself in an effort to show her impact as an actress. Upon arrival in New York, she had signed a contract with MGM.

LIFE IN THE UNITED STATES:

By the time Hedy Kiesler arrived in Hollywood, she had a new name “Hedy Lamarr” and \$500 a week salary. Lamarr’s first Hollywood movie, *Algiers* (1938), introduced American audiences to her glamorous star power and she began to dominate the box office. Over the next ten years, Hedy Lamarr would star in a number of notable films, including *Boom Town* (1940), with Clark Gable and Spencer Tracy; *Tortilla Flat* (1942), co-starring Tracy; and *Samson and Delilah* (1949), opposite Victor Mature (Hedy Lamarr Biography 2019).

DEVELOPING HER INVENTIVE SKILLS:



From her early life, Hedy Lamarr's inventive skills were heavily influenced by her dad, Emil Kiesler, who, as a lifelong banker, loved inventions himself. With her love and compassion, Lamarr's fascination for inventing was born as she slowly grew up with her dad, showing many inventions that she encountered worked. Hedy Lamarr, at a young age, loved to take things apart, for example music boxes, and put them back together. With this love for invention, she later on in her life

allowed her to be motivated and determined to create many inventions with her friend, Antheil. When Lamarr and Antheil become friends, they began discussing the war, revealing that Lamarr did not want to sit in Hollywood creating movies, when their country was in a perilous state. She told Antheil that she knew a lot about secret weapons and was thinking of quitting M.G.M. and going to



DC to offer her services to the Inventors Council, which was just created. In the end, they both decided not to leave Hollywood, but instead start working on one of Lamar's ideas: a radio-guided torpedo with synchronized anti-jamming frequency hopping.

UNSUCCESSFUL PATENT:

Despite her intelligent innovation of the Secret Communications System, she was not able to implement her technology into military use (Fuller, 2017). She received the patent in 1942 after she registered it under her husband's name in an effort to give more credibility to her invention (Smithsonian Institution Archives ID #: WEB12921-2013). After receiving a patent for her invention she felt compelled to support the war efforts. She offered the technology to the Navy, they considered it to be impractical, and therefore, did not have it implemented (Bombshell: The Hedy Lamarr Story). The Navy and Charles F. Kettering, head of the National Inventor Council, where she wanted to join for her invention, directed her to use her effort into selling war bonds.

Although discouraged after the rejection of her patent, Hedy Lamarr still took the war efforts seriously and reportedly “raised \$25 million (the equivalent of \$340 million today)” (Fuller, 2017). Lamarr sold bonds by “dancing and chastely kiss[ing] a lot of soldiers at the Hollywood Canteen and on war bonds tours” (Fuller, 2017). Due to the fact that she was from Austria, an enemy from the Allies, her patent was hidden by the United States government and marked as confidential. Therefore, Lamarr never received compensation for her invention which would be further developed by a military contractor. Lamarr did have the opportunity to appeal for compensation with a few years of the patent’s expiration. Despite the opportunity, Lamarr was unaware of her options and lost the opportunity for compensation.

MODERN DEVICES:

Every modern device today uses spread spectrum technology for wireless connectivity. Utilizing frequency hopping in wireless communications makes a connection nearly impenetrable since it is far less likely for unwanted people to interfere with the signals, making it almost impossible to jam. Aside from its more modern uses, spread spectrum technology was used in military application for submarine torpedo navigation. The signals are untraceable by enemies, and the signal cannot be rerouted after it has launched. Hedy Lamarr's discovery of spread spectrum signals was truly ahead of its time in terms of technological advancements. In conclusion, Hedy Lamarr's successful engineering career created the building blocks for today's modern technology that is still in use in the 21st century. It's important to recognize the history behind today's Bluetooth and Wi-Fi chips, and the military uses for Lamarr's inventions.



Aug. 11, 1942.

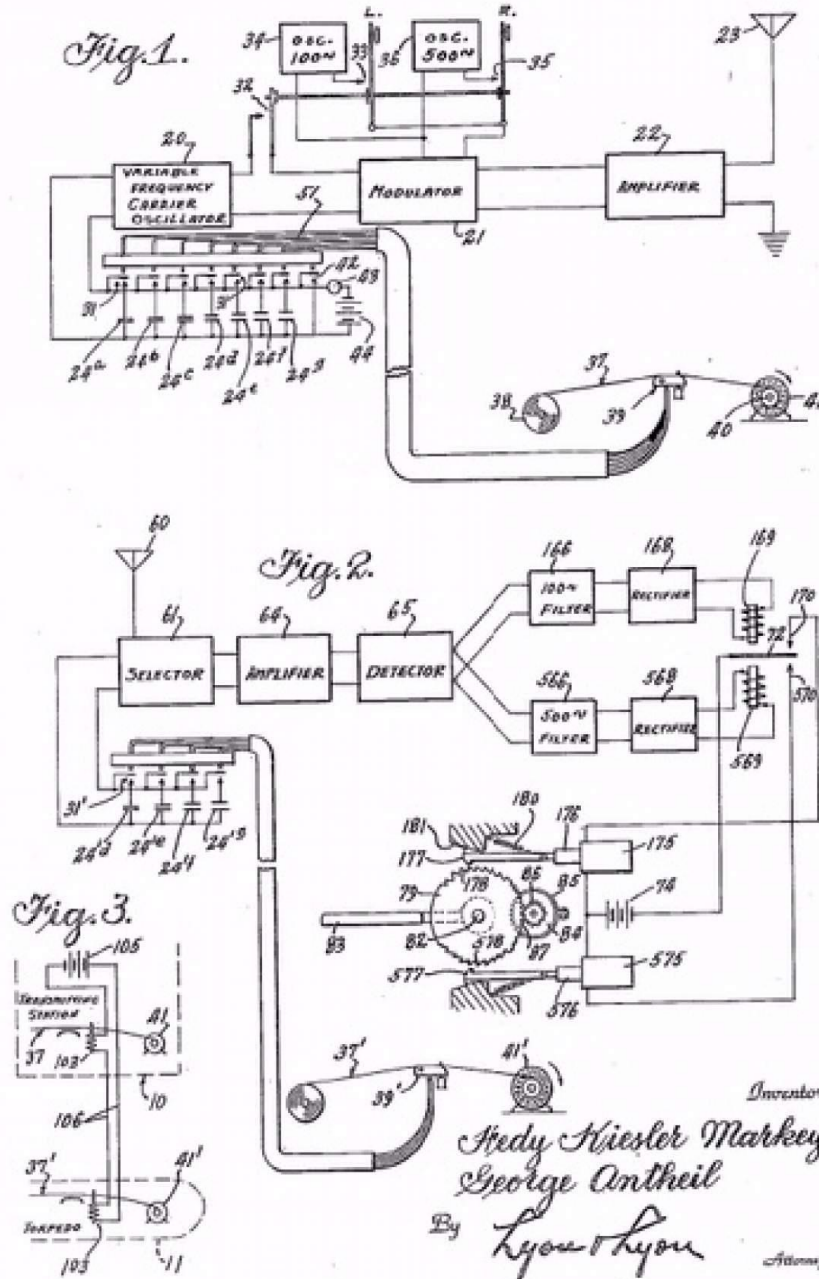
H. K. MARKEY ET AL

2,292,387

SECRET COMMUNICATION SYSTEM

Filed June 10, 1941

2 Sheets-Sheet 1



Patent # 2,292,387 for a "Secret Communication System," granted to actress Hedy Kiesler Markey. At the time it was filed, in 1941, Lamarr was married to Gene Markey, a Hollywood screenwriter. She felt that having her married name on the patent would give it more credibility. This system could have inspired the scientists and engineers who developed GPS

REFERENCES

Bedy, J. (2015, November 12). *A Movie Star, Some Player Pianos, and Torpedoes*.

Retrieved from <https://invention.si.edu/movie-star-some-player-pianos-and-torpedoes>

Center, S. L. (2018, March 13). *A Movie Star, Some Player Pianos, and Torpedoes*.

Retrieved from: <https://invention.si.edu/movie-star-some-player-pianos-and-torpedoes>

Couey, Anna (n.d.). *The Birth of Spread Spectrum*.

Retrieved from:

https://people.seas.harvard.edu/~jones/cscie129/nu_lectures/lecture7/hedy/lemarr.htm

Diamond, A. (2017, November 01). *Why Hedy Lamarr Was Hollywood's Secret Weapon*.

Retrieved from:

<https://www.smithsonianmag.com/innovation/hollywood-secret-weapon-180965209/>

Ecstasy (1933, January 20). Retrieved from: <https://www.imdb.com/title/tt0022867/>

Fritz, Mandl. (2018, March 10). Retrieved from:

<https://www.geni.com/people/Fritz-Mandl/6000000009716686400>

Hedy Lamarr. (2019, April 17). Retrieved from:

<https://www.biography.com/people/hedy-lamarr-9542252>

Fuller, Graham. (2017, August 16). *How Sexism Punished Inventor Hedy Lamarr*. Culture Trip.

Retrieved from:

<https://theculturetrip.com/north-america/usa/new-york/articles/how-sexism-punished-inventor-hedy-lamarr/>.

Hedy Lamarr. (n.d.). Retrieved from:

<https://www.womenshistory.org/education-resources/biographies/hedy-lamarr>

Smithsonian Institution. (1941). Hedy Lamarr's Patent.

Retrieved from: <https://airandspace.si.edu/multimedia-gallery/4790640jpg>

