

## **The Breakthrough Listen SETI Program**

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We discuss the ten year \$100M Breakthrough Listen program, including its instrumentation, the first year of observations, and concepts for future SETI experiments. Currently using the Parkes 64-m and the Green Bank 100-m radio telescopes, as well as Lick Observatory's 2.4-m Automated Planet Finder optical telescope, Listen is observing roughly 2000 of the nearest stars as well as surveying the galactic plane and nearby galaxies. Listen's digital instrumentation at Green Bank enables a band of up to 10 GHz to be recorded and analyzed.

A longer term Listen goal is to survey a million nearby stars utilizing new SETI instruments on next generation radio telescope arrays. Another possibility we are exploring is to search for low duty cycle signals by developing all-sky all-the-time instrumentation at optical and radio wavelengths.

Listen data products, available to the public, include both high spectral and high time cadence spectra.