

SETI Horn of Plenty: an Argus Antenna Alternative

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ABSTRACT

The parabolic reflector has, since the days of Reber, been the antenna of choice for amateur radio astronomers. Project Argus participants are no exception, typically employing discarded backyard satellite TV dishes of three to five meters in diameter. Such antennas perform well, but their size, as well as complications of municipal zoning restrictions, preclude their use by many a potential Argonaut.

This article presents construction and performance details of an alternative Argus antenna, a portable waveguide horn reminiscent of the one used by Ewen in 1951 to first detect the 21 cm radiation signature of interstellar hydrogen. Producing +19 to +21 dBi of gain across the 1200 - 1700 MHz band, the SETI Horn of Plenty rises to the challenge of mapping galactic hydrogen. It also performs well in monitoring the Sun, the Moon, natural radio sources in Cygnus, Cassiopeia, Taurus, and Sagittarius, and (maybe, some day) in detecting ETI.