SRBL - Solar Radio Burst Locator

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The position of flares on the solar disk is an important factor for the prediction of solar-terrestrial activity. Since such information is not always available, the Solar Radio Burst Locator (SRBL) was developed at Caltech as an all-weather system to locate microwave bursts on the solar disk and to provide information on their spectra and intensity. Each fully automated system uses a single 1.8 meter diameter antenna with an az-el mount and a frequency-agile receiver to monitor the sun at over 100 frequencies between 245 and 18000 MHz. In addition to providing burst locations, the output of SRBL can be viewed either as a dynamic spectrum, a set of light curves or as a sequence of high-resolution, well-calibrated burst spectra. Prototype systems have been in use at the Palehua Solar Observatory in Hawaii and at the Owens Valley Radio Observatory since 1994. Production versions of SRBL will be deployed worldwide in time for MAX-2000 as part of the Solar Electro-Optical Network (SEON) operated by the US Air Force. The resulting data are expected to be available to the scientific community. Such a database, with its continuous 24-hour solar coverage, should prove particularly valuable for statistical studies and as a reliable source of ancillary data in support of other solar burst observations. This poster will describe the SRBL design, calibration, status and performance to date.