

A 70 cm dipole array for repeater use

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This article describes how to build a robust, commercial standard, UHF antenna system suitable for repeaters on the 70 cm band. The antenna may be of interest to any other club or repeater group around the country wanting to establish or service a repeater. We have dubbed it the 'Moonshine Special' for reasons that are obvious once you have seen one. First a little background story is in order to reveal the motivation behind this design.

Back in 2009 the 70 cm repeater VK3RWD (Warragul-Drouin) was temporarily relocated to Jindivick for some field trials. Unfortunately it was fried in the bushfires that raged to the east of Melbourne at that time. Very little remained. At that time the repeater was licensed to the Eastern Zone ARC. It was not a high-profile repeater and had a limited service area, so while the licence was maintained, the repeater was not returned to service after the fires.

The Gippsland Gate Radio & Electronics Club is based in Cranbourne, to the east of Melbourne. They maintain a 70 cm IRLP repeater in Cranbourne (VK3RLP), another six metre repeater near Cockatoo (VK3RDD) and some microwave beacons in Frankston. In recent years several new members had joined the club from around the Drouin and Warragul area and there was some interest in reactivating the VK3RWD repeater for public use. Following some friendly discussions with the Eastern Zone

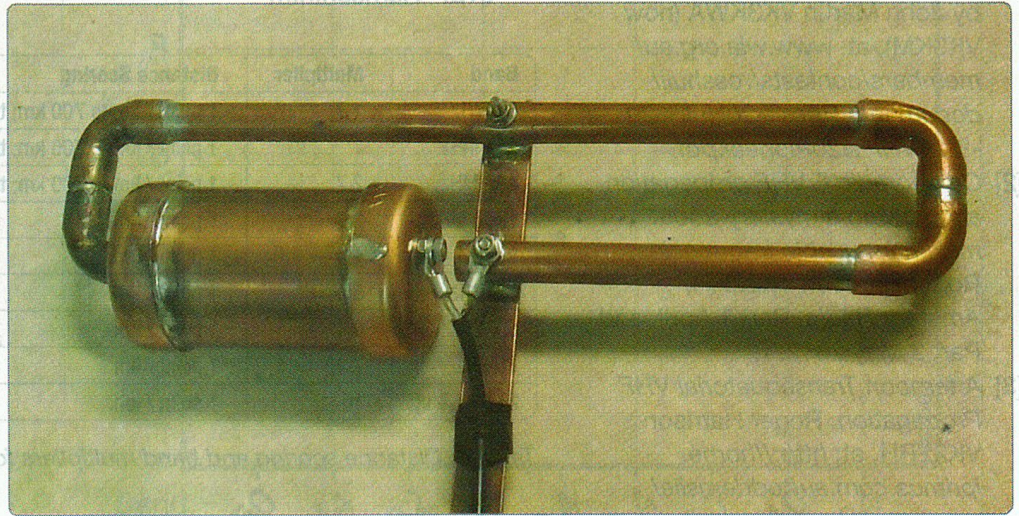


Photo 1: The 'Moonshine Special' test dipole.

ARC, they kindly relinquished the licence to the GGREC so that they could resurrect the repeater as a club project. The details of how all the equipment came together would make a fair article in its own right. Many members were involved with building it up from

scratch and learned the fine details of what makes a repeater tick. By October 2013 the repeater was re-commissioned. VK3RWD is now a robust, battery-backed repeater with sophisticated control system, servicing a part of West Gippsland, roughly between Berwick and

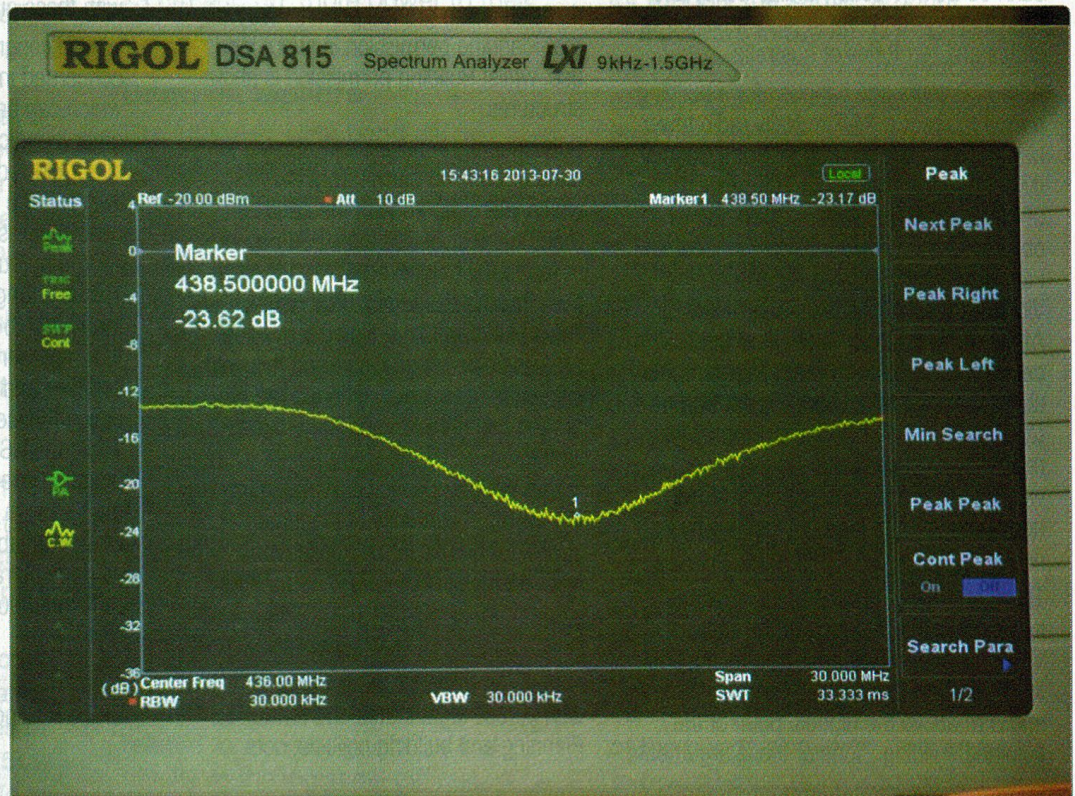


Photo 2: The spectral sweep of the copper dipole.