

A 77 – 117 GHz RADIOASTRONOMY RECEIVER FREQUENCY CONVERSION AND LOCAL OSCILLATOR SYSTEM

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A cryogenically cooled millimetre-wave receiver system was recently installed in an antenna located at Mopra near Coonabarabran as part of the Major National Research Facility (MNRF) funded project to extend the frequency coverage of the Australia Telescope National Facility receiver systems. The frequency down-conversion and local oscillator systems for the new dual-band, 16 – 26 GHz (12mm band) and 77 – 117 GHz (3mm band), receiver will be described. The system design and active components required to down-convert the very wide, 77 – 117 GHz, frequency range will be highlighted.