

South East Radio Group

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REPEATER REPORT. APRIL 2024

This month's report is provided by Maxwell. VK5AC
On 6/4/2024 Nic VK5NJS and I VK5AC collected John VK5DJ on the way to Naracoorte and we proceeded to refit the Imark 5020RM (cream face, dual transformers in parallel, 1 diode bridge) supply and new 170AH AGR battery. The previous crimped battery leads were also soldered.

Tested Naracoorte repeater as normal operation TX and RX with Tony Vk5ZAI onair.

John did some minor checking of the high voltage detection on the repeater controller and no adjustment was required. He then made some minor adjustments to the line levels -10db audio across the 2 links and repeater radio.

Again tested Naracoorte repeater as normal operation TX and RX with Tony Vk5ZAI onair.

Imark output 13.8V on mains.

On mains during TX, no voltage drop to the battery occurred, thus no current from battery.

Mains fail then on battery, with input of battery at 12.5V, load output was at 12.04V

Voltage difference from battery terminal to output terminal was 0.46V consistent with my bench testing occurring across the internal battery circuit breaker + the two internal shunt

measuring resistors + battery low voltage disconnect relay + internal wiring.

We returned home and I tested the Tait T348/01 power supply SN 201923.

T348 end result is that I can verify it is operational and there is no problem detected. Probably good for the repeater alone, but not ultimately sufficient for the repeater and extra two links.

Measured as

Output O/C = 13.80V DC

Loaded to 7.5A = 13.78V

Output also checked on CRO loaded and unloaded and maximum ripple/noise 10-15mv p-p.

T348 supply will be returned next week to the clubrooms with the site key to you.

After some discussion with Nic VK5NJS it's possible that the 15A power supply was underpowered for the repeater plus the two additional links, so that the battery was assisting the output current frequently, then charging frequently, and not operating fully within deep cycle designs.

If in future the Imark supply needs work then a like for like replacement should be the best option for battery longevity, or if the Tait supply is used, then disconnect the battery totally for that period.