

Tait Repeater Testing

Background

The Tech Team tested the Mt Disappointment 145.300 Tait repeater (using PL 107.2), 20 June through 23 June. We did some informal checks among stations over the weekend, took advantage of the Southern Region OES SWACS net Monday night and the Tuesday DCS noon net to gain more data. Some observations were tainted by the fact that some users were on the wrong PL. Operating on the legacy machine started the ID timer and when the CW ID was transmitted there was heterodyne interference.

Conclusions

Generally the Tait repeater operates better than the legacy repeater

- Heard where the legacy machine has issues
 - Some areas in Palos Verdes, inside a building in Torrance, Calabasas, San Dimas and Santa Clarita reported better performance than the legacy machine
 - Good signals from Ventura and Encinitas
 - In Torrance when both machines are up the Tait captures my receiver
- Audio is noticeably cleaner and less bassy

Issues noted

- Susceptibility to intermod.
 - Intermod sometimes wipes out weak signals which are otherwise good/readable
 - 5w on an outside antenna from Encinitas was close to full quieting and then wiped out when the intermod comes on; same for HTs in the County
 - Grunge can be heard occasionally under strong signals
 - Noticed slight intermod interference even with 50w and outside antenna from Cerritos
 - Heard a Tech (AD6RO) testing Monday and he said the duplexer is not the operational one; hopefully the operational duplexer will clear up the intermod
- Two stations in the foothills were heard worse than on the legacy machine, attributed to the 200 foot more northerly location of the Tait. It is possible that issue was intermod and/or the legacy repeater heterodyne.
- CW ID is too loud – needs to be lowered

Suggestion -- PL on the Output

Our repeaters on Mt Disappointment do not transmit the PL tone on the output. Doing so would allow users to eliminate any spurious interference they experience by using tone squelch. Users who choose not to use tone squelch are completely unaffected.

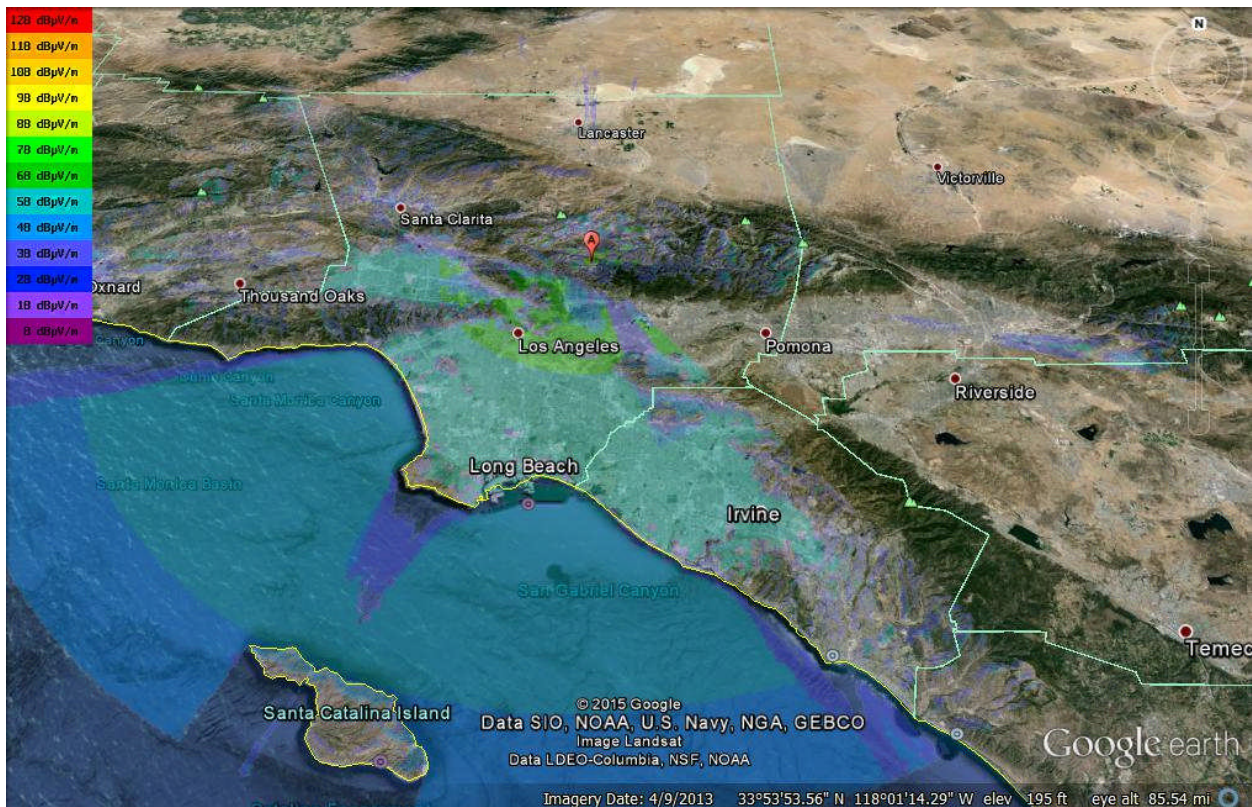
PL on the output may be incompatible with the 2m simulcast system being considered. We assume that in the best case only one of our systems would be simulcast. The other one should transmit the PL. Given that 145.300 is not a clear channel for us (there is another repeater in Ramona) and we operate the EOB repeater on that channel as well, it would be the non-simulcast system. Therefore the Mt Disappointment 145.300 should have tone on its output.

Bottom Line

I see a no compelling reason to not make the switch over. The sooner we switch over, the sooner the Tait will get the operational duplexer.

Respectfully Submitted,

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DCS Technical Operations Officer



K6CPT Coverage Estimate @ 145.300 MHz, with approximations for ERP and antenna structure height, out to 113 km radius