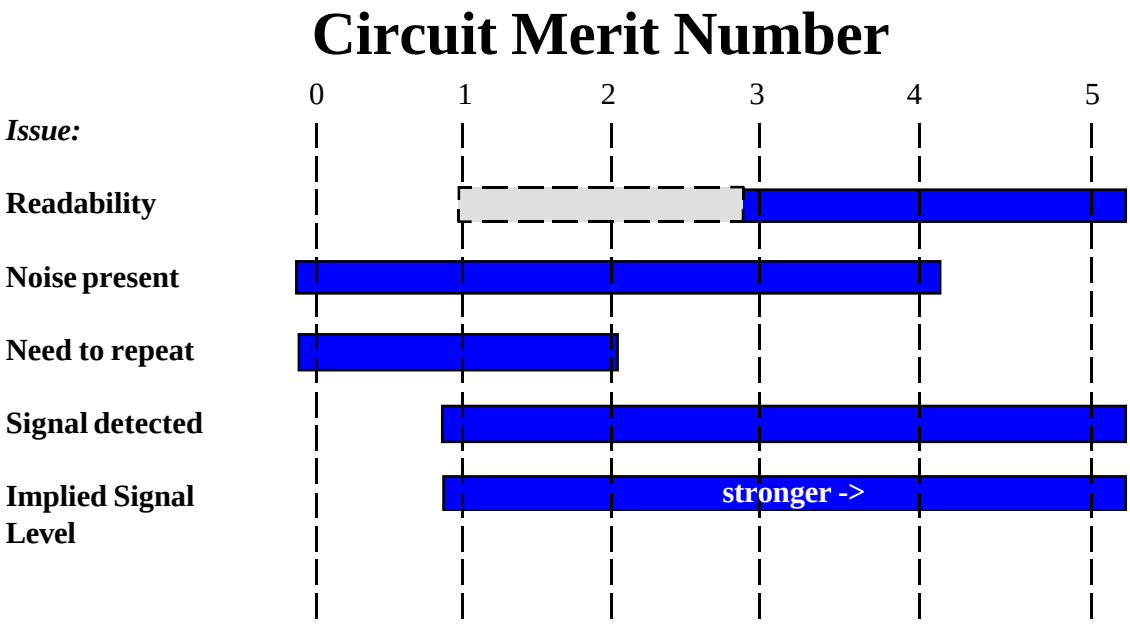
Circuit Merit Signal Reporting

The R-S-T system used by amateur radio for reporting signal quality dates from the early days of radio. Used properly, it did provide useful information. However, it also is largely "subjective" in use, and was also mired into both brevity and politeness. Many operators pride themselves in station setup, amount of equipment, and transmitted signal. Everyone would like to be "loud and clear", and sometimes it is easier to simply say that, or use the abbreviated RST "5-9" report. than to actually be objective, and report more detail.

As a result of the typical vagueness, subjectiveness, and "politics" of this older system, some HF radiotelephone professionals devised the "Circuit Merit" reporting system. Since its' creation, there have even been a number of variations in the Circuit Merit system, but I will suggest **the usage and protocol to be used by Ventura County ACS.** When using the Circuit Merit system, please begin the initial signal reporting exchange by stating, "You are "Circuit Merit [?]" (whatever number applies). The return response can use the same language, or shorten it by perhaps stating, "You're CM 4", or "You're 5 as well". In this example, the subject matter of signal reporting has been introduced by the first person, which helps anyone listening to understand (in PLAIN ENGLISH) what we are talking about. DO NOT USE PHONETICS to identify the Circuit Merit reporting, as in "Charlie-Mike", etc.

What is great about the Circuit Merit System is that it covers a number of issues **by definition**, and when used with "understanding" of these issues, it can convey a number of important pieces of needed information with the use of a single number. To illustrate these issues, I decided to represent them "graphically". The bargraph below represents what each Circuit Merit number (numbers 0 to 5) means.



Two Examples:

A **Circuit Merit 5** means fully readible, no noise, no need to repeat, certainly the signal is detected, and a very strong signal is detected (loud and clear).

A **Circuit Merit 2** means very poor readibility, signal is at the noise floor, most likely will need to repeat what is said, and while the signal isdetected, is is very weak.

Circuit Merit Quick Reference

The signal is quantified using these criteria:

CM5 - Completely clear, broadcast quality.

Each word is fully understood, without any objectionable interference or noise; on FM, full quieting. Always breaks squelch (*). This designator is not always earned on FM, and seldom on SSB; as conditions must be superb.

CM4 - Clear with a slight amount of noise and/or interference.

Each word is understood. Always breaks squelch. A common report for solid SSB voice conditions under very good conditions; the FM equivalent is a slight amount of "white noise" behind the transmission.

CM3 - Static and/or interference is present.

Bulk of transmissions are understood without having to be repeated. Usually breaks squelch. CM3 is generally considered to be at the margin of acceptable voice communications, particularly when using squelched FM.

CM2 – The noise level very close to signal level. Static and / or interference very prevalent;

words are missed, retransmissions are necessary. Won't break squelch reliably. CM2 is not considered acceptable or reliable.

CM1 – A signal is barely evident and words are unintelligible.

You can tell that someone is "there" but will not break squelch. CM1 is deemed unusable for voice communications.

CM0 - Absolutely no signal is detectable.