



Improving those Weak Signals

Wide band Pre-amps

Do I Need A Wide Band Pre-amp?

You've undoubtedly heard about signal amplifiers or preamplifiers which are used to increase reception range by boosting the strength of weak signals. It sounds like a truly wonderful device that every Scanner Listener should be using.

The problem is that most people tend to oversimplify the problem of weak signal reception and how it can best be solved. While adding a preamplifier will boost weak signals so that they can be heard easier, this device also boosts ambient noise as well as already strong signals.

The biggest problem here is that by increasing the strength of already strong signals, you are bombarding your receiver with a large amount of radio frequency energy it might not be able to handle. The result is more and stronger images, as well as increased intermodulation interference. Boosting the ambient noise is no joy either. Like they say, you can't get something for nothing! So while you MIGHT be able to pick up a few more distant frequencies, you'll probably find that trying to monitor your local signals make for a nightmarish experience as your receiver now "barfs up" all kinds of interference signals that weren't there before. In short, if you live in the "sticks" and far from most man-made radio frequency energy, you will probably be able to get some benefit from using a pre-amplifier to boost those far away signals. If you live in or near an urban area, chances are that adding such a device will create more harm than good. If you want to increase your reception distance then think about adding an external antenna and using good quality co-ax cable.

Why don't the Hams have Intermod problems etc...?

Hams are using equipment which is of similar specs to the AR5000 and/or AR3000A... Their Masthead Pre-amps and Antenna are designed for specified frequencies eg. The DX Part of the 2M Ham Band is 144.100 Mhz. Unfortunately scanner users want to listen from 30 Mhz to 1000 Mhz. If you have an external antenna, think about putting it up higher, upgrading to a more efficient design (usually larger in size), using a tuned antenna for a certain frequency range, or a beam antenna to focus your listening into one geographic area of your choosing. Or upgrading your receiver.

I need one.. I think?

Are you really sure about this? What sort of receiver are you using? If you own a low the mid range Scanner, forget it.. It's probably already got a broadband pre-amp in the front-end. Adding another one will make it worse. A Handheld scanner is just that "Handheld". It was designed purposely to have heaps of front-end gain, because it only has a small whip type antenna. Depending on your location you may get away with the Diamond D130 Discone, but I can almost guarantee you will get some intermod etc. How many of you are hearing the Police on 500 odd Mhz? and that's with the supplied antenna!

Do you still think you need one?

So you own a top of the range Handheld Scanner? Like an AR8000, AR8200 or the Yupiteru MVT9000. A Pre-amp MIGHT help a little. But why bother.. Improving your antenna is a much better investment. The Diamond D130 Discone will beat any Pre-amp I've got.

Active Antenna's?

Basically a broadband antenna with an internal Pre-amp fitted at the Antenna? The Diamond D707 and D505, offer a variable gain control, so you can limit the overload problem to a more desirable level that satisfies the quality of your receiver and frequency you are monitoring. The amplifying is done at the antenna end, so you are not amplifying the noise in the coax. but still not recommended answer for low range scanners.

So Where do I go from here?

You might be using the wrong tool for the job. Would we drive the family car across the Waimak River. We don't do we? We go out and invest in a 4WD. From personal experiences, the AR3000, AR3000A, AR5000, Base/Mobile Receivers are excellent receivers and will reject interference, offering selective filtering in the IF Stages. They were designed specifically for external, high gain antenna systems. The AR8200 and MVT9000 will operate okay with the D707.

If you need assistance in improving your reception please give Com-Centre a call. We have years of experience, and are only too willing to help you get the most out of your Scanner.