

# Why Amplify?



By Richard Henry

## PROBLEM

The antenna most desired by a caravanner is one that is small and easy to store as well as giving acceptable performance. A small antenna that is designed to pick up a wide range of frequencies is by necessity limited in gain and together with caravan and camping sites often being in pretty, mountainous places, does not make for good reception. It will often mean that the signal levels will be low and if the antenna is not designed for the frequencies being used where you are holidaying, then the situation will be worse – or to put it another way the signal it delivers to the set will be low and noisy. NOT a good combination for trying to produce a picture!

## DATA

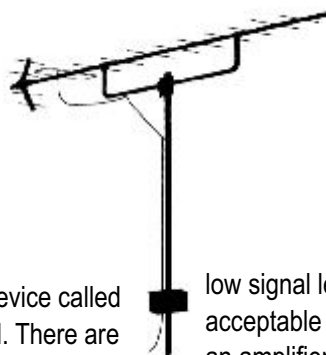
When you are unable to select an antenna specifically for a location such as for a fixed or permanent site van, you must use an antenna capable of receiving the full range of frequencies broadcast in Australia. Couple that with the need for the caravanner to be able to pull down and setup and store the antenna easily one can see that the amount of signal gain the antenna can produce is limited. It is all important to look after the signal collected and keep it in its purest form – i.e. don't use poor quality cable or splitters, etc.

## SOLUTION

To help with this problem a device called a Booster or amplifier is used. There are different types of amplifier used in antenna systems, but the type required by caravanners is called a mast head amplifier. This type of amplifier is built into the antenna or mounted to the mast directly below the antenna. This way whatever the antenna receives is amplified and sent down the cable at a level or strength that can be used or even split to another point or for FM radio. Thus a weak signal does not have to push its way down the cable, getting weaker, before being amplified and also that any noise picked up by the cable is not also amplified destroying your picture.

Mast head amplifiers are designed to work with a weak signal and boost it without adding noise of its own to the signal. Some poorer quality (cheaper) versions of masthead amplifiers are also noisy and so they do not give a good picture after amplifying the signal. Also you may not have sufficient raw signal coming of the antenna to allow amplification to improve the picture. This is the problem where too high a gain amplifier is selected. The amplification being too great, it also amplifies the noise in the signal to a higher level and overwhelms the picture. An amp of about 20dB is all you need – digital reception is particularly sensitive to this.

All explorer antenna systems come complete with a built in low noise amplifier designed to work with a very



low signal level and produce an acceptable to excellent picture. However, an amplifier is a tool and will amplify anything that it receives. Sometimes this means that a ghost image will become stronger and more obvious. Also any other signals that are in the area can be made far more visible on your picture, due to the amplification, than they would otherwise be with no amplification. Small caravan antennas often do not have extensive use of reflectors and so are more prone to “ghosting” where multiple images are shown, this is particularly true of dipoles, and omni-directional antennas.

As Caravanners generally use a small screen this is not usually a big problem – however digital reception can be effected more adversely causing the image to block or freeze. As all antennas are a compromise it can be seen that the plus points of having an amplifier far out way not having one when you are dealing with caravan antennas. Note that all amplified systems require power and they should therefore be setup to run off 12volts DC -so that they can be used when 240volt is not available.

Ask your caravan dealer for the **explorer** antenna System - The one that works!



45 YEARS EXPERIENCE



207A Elgar Rd, Surrey Hills, 3127 - (03) 9808 6999  
sales@deeperimage.com.au - www.deeperimage.com.au