

SOME THOUGHTS ON BEVERAGES

by H. John Clements

As one of a group who has built more Beverages in more configurations than anybody on the West Coast, if not the hobby, I would like to offer some comments on Beverages as a result of our experiences. Many of these comments have not been published, but have been discussed at various DX meetings. Others are results of our experiences.

It's Not A Panacea

The statements that Beverages bring in great quantities of DX is somewhat misleading. Most Beverage builders get to use their Beverages once or twice and hear a lot of new stations they never heard before. Naturally, they are quite impressed, but what they don't realize is that most of those stations will be in practically every night. As a matter of fact, 80-90% of all new catches on a Beverage antenna will become regular or semi-regular. In many cases, you just shift the location of your regulars from less than 500 miles to 3000-5000 miles. Another thing to remember is that it takes a skilled DXer to take advantage of a Beverage antenna. At sunset, many times a DX opening will occur that last for about 1-2 hours. During that time there will be as many as 35 splits (a large number for the West Coast). It takes an above average DXer to get a significant number of them in the allotted time. On a typical night, hearing 13 countries in a night is normal for us. However, one time Bruce Portzer was down in Southern California and with him we heard 29 countries in one night. The primary difference was that he knew what to expect at a given time on a given frequency. I would like to point out, also, that only a very small number of stations that I have heard on the Beverages have not been heard by someone else on the West Coast. In fact, I have heard at home just about everything I have heard on the Beverages. It goes to show that a box loop in the hands of a good DXer can be better than a Beverage in the hands of an average DXer.

Size

People seem to want to make a Beverage as long as possible. In fact, I have often been asked "I wonder how a 10,000 foot Beverage would work?" There are tradeoffs that are a function of length that a builder should be aware of. Like any other antenna, gain is obtained with an increase in directivity. I built one 5400 feet long pointed at 135° that was so directional that the Eastern clears (KOA, KOB, WCCO, WHAS, KDKA, WHO, etc.) were completely inaudible. When daytime XEZF-850 (Mexicali) signed off, Radio Ciros in Guatemala (1 kw) was there all night with no trace of KOA! (They were also there every night too....) However, this directionality proved to be overly restrictive since almost nothing came in from the Carribean and Eastern South America. Cuba-720 was weakly audible in the morning hours. St. Kitts-1265 was a little better. However, I did log all the stations in San José, Costa Rica and all the Radio Sutatenza outlets in one night. I would conclude that 3,000-3500 feet is about optimum. 5,000 feet is far too directional, and less than 2,500 feet does not seem to provide a great deal of gain and performance.

Termination

Invariably, the first question I am asked is how I terminate it. It seems everyone who hasn't built one wants to terminate a Beverage. The answer is that I don't and for practical reasons. For one thing, termination varies as a function of frequency and time of day. The FCC at Grand Island found that they couldn't make a Beverage hold termination for the same reasons. Also, curiously overlooked by everyone that I talked to, is a mention in Mr. Beverage's article (available as an NRC reprint) that unidirectionality is obtainable only when the antenna is a multiple of a half-wave, which seems to imply that termination is a waste of time. You also run into the very practical problem of coordinating two people half a mile away while trying to adjust termination. I have found the longer Beverages to be quite unidirectional anyway. I have had many instances of a 1 kw or less Latin wiping out 50 kw clears off the back end (like KGO, for instance). As far as terminating a Beverage goes, I would say experience indicates it is not worthwhile.

Construction

The Beverage is one of the easiest antennas to construct. Just take a couple thousand feet of wire and string it out on some kind of supports and you will get respectable results. However, certain things can improve performance greatly. First, try to use as few pieces of wire as possible. Although it may work great the first time with many splices, as time goes on, corrosion will cause a loss in performance. Also try to use as big a wire size as possible since this reduces losses due to wire resistance. (There can be several hundred Ohms of resistance in several thousand feet of wire.) However, don't be afraid to use #26 wire if it is all that you have - it will work fine. Try to make the posts as straight as possible. While good results are obtainable even if you deviate + 50 feet from center, you will find some of the 50 kw clears completely disappearing when it is close to perfectly straight. You will also find that the better DX tends to hang in longer and that sunrise-sunset reception is dramatically enhanced. I have found that the hours of 10 PM - 2 AM to be slow on the poorer Beverages, but very much more active on a well built Beverage. For height, 4-6 feet is about right. More than that, you would be paying more for longer poles, and the extra height buys you nothing. At 2 feet or less, the antenna seems to interact with the ground and performance is reduced substantially. Poorly built Beverages with parts of the antenna drooping close to the ground or posts poorly laid out seem to have a lot of extraneous lobes. These lobes pick up stations broadside to the antenna very well and tend to disappear when the Beverage is better built. When picking a site, you want sandy (desert type) or rocky soil. Remember, the Beverage works because lossy ground causes the radio waves to tilt. Those who say the ideal site is a Beverage built over poor soil terminated into a stream are dreaming. Any water will cause the soil for quite a distance to become very conductive, ruining Beverage effects. I recently went on a Beverage party just after the big rains in California and the conditions were very poor. After considering all the factors, the conclusion was that the soil was still too damp. Any loss of performance due to good soil can be compensated for somewhat by increasing the wire size. It also follows that constructing a Beverage near the ocean to get better transoceanic reception will not produce excellent results.

Showing It Off

Once you have built your Beverage, you will want to show it off to the plain folk who have not had the experience to listening on one. When I go to a Beverage with a new person, I use a simple technique. I take a TRF, stand a couple of feet from the antenna, and tune in KDAY-1580 (50 kw). After pointing out how solid the rock and roll is, I move the TRF next to the wire and ZAP!! Instant solid XEDM (México) with nice ranchero music. It's very impressive. Similarly, the jumble on 920 is changed to solid XEBH. Also very interesting is walking down the Beverage a ways and having one of the stations on a frequency rise out of the jumble because you hit its point of maximum strength.

The Beverage is capable of truly fantastic reception. Like Chile-840 at sunrise so loud you think it is a local. And Radio Rumbos-1210, a 1 kw Guatemalan, dominating the frequency. And the various Radio Libertads, rising out of the mud near the top of the hour for their IDs. Any many-many more. I suggest that you take a tape recorder along so people will believe you.

I hope these comments will serve to help future Beverage builders and answer the often asked questions. I would welcome correspondence on the subject by other Beverage users. I am particularly interested in comparing the East and West Coast reception patterns.

-H. John Clements, 9010 Tobias St. #258, Panorama City, CA 91402.

(Article typed by Phil Bytheway-c/o Goodie Factory)

