

Low-Band Wire Antennas for the Summertime Blues”

**Presented by Jim Koshmider, K8OZ, at the
Amateur Radio Caravan Club meeting, June 9, 2017**

Low Band Antennas for the Summertime Blues

By Jim Koshmider, K8OZ

**Prepared for the June 9, 2017 Meeting
of
The Caravan Club, Albuquerque, NM**

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Foreward

During the summer months in New Mexico, and especially during the low ebbs of the sunspot cycle, band conditions are typically quite poor for the higher frequency bands. The noise seems to ascend to higher levels than noticed at other times of the year. Also, the solar flux tends to hover between 70 and 80 during this interval of time, barely sufficient for even medium range communications on 20 meters. Granted, there may be short “blips” of openings on even the 6-meter band, but such openings are infrequent and are generally unpredictable.

For reliable communications beyond a distance of about 500 miles, the lower frequency bands (30, 40, and 80 meters) become almost essential for holding consistent and regular schedules. And, the longer-range openings on these bands are largely limited to nighttime operation.

With these considerations in mind, the following review of antenna types and configurations is presented to help members of the Caravan Club select the most useful antennas for successful communications. To maintain a sense of relativity between the various designs, all antennas were modeled for the 40 meter band, but the concepts easily translate to the other bands. Some of the antennas described herein should prove effective enough that the members may decide to install them for year-round operation.

Good luck, and good DX...!

Jim, K8OZ

Contents

Slides for Discussion

1. 40m Dipole at
 - a. 8 feet
 - b. 15 feet
 - c. 25 feet
 - d. 65 feet
2. 80m G5RV for 40 Meters
3. 40m Half-Wave Sloper
 - a. Half Sloper (quarter wave)
4. 40m Vertical at
 - a. 10 feet
 - b. 16.5 feet
 - c. 33 feet
5. 40m Inverted L
 - a. 10 feet x 23 feet
 - b. 10 feet x 33 feet
6. 40m Phased Verticals
 - a. 17 foot spacing
 - b. 32 foot spacing

7. 40m Horizontal Loop at

- a. 10 feet
- b. 15 feet
- c. 25 feet

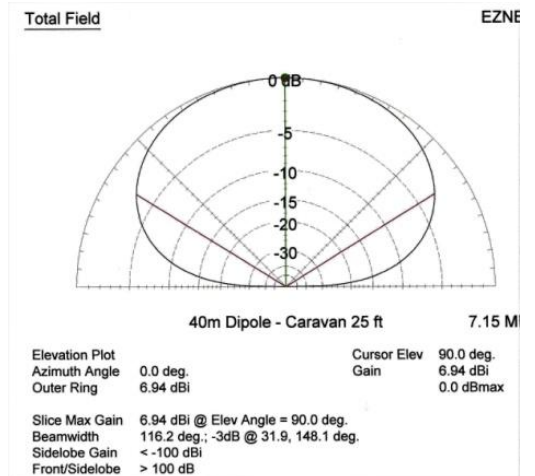
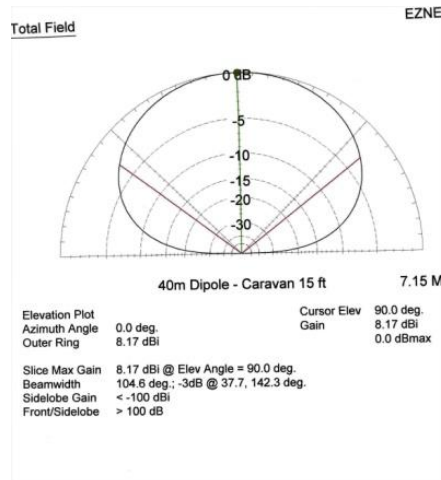
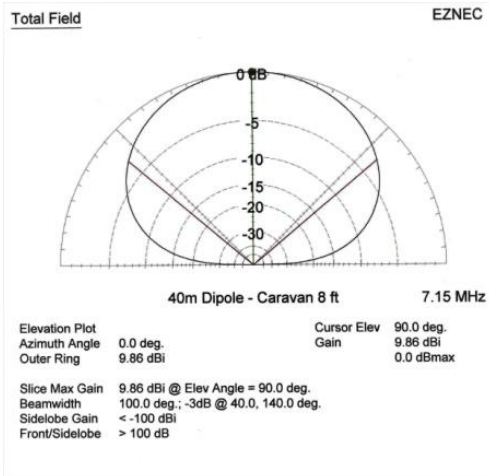
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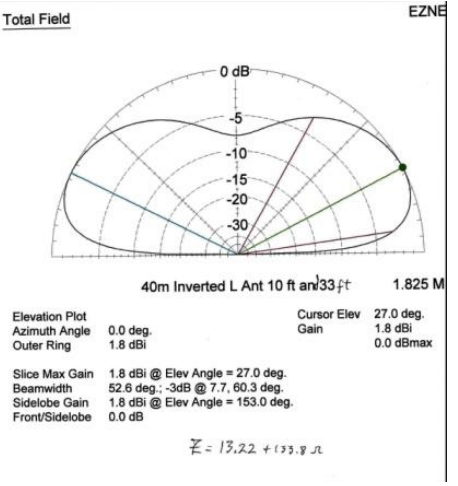
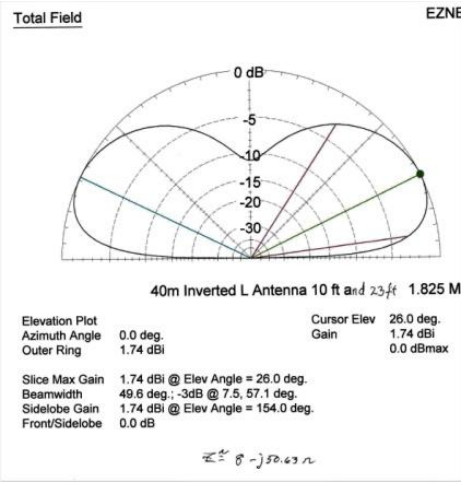
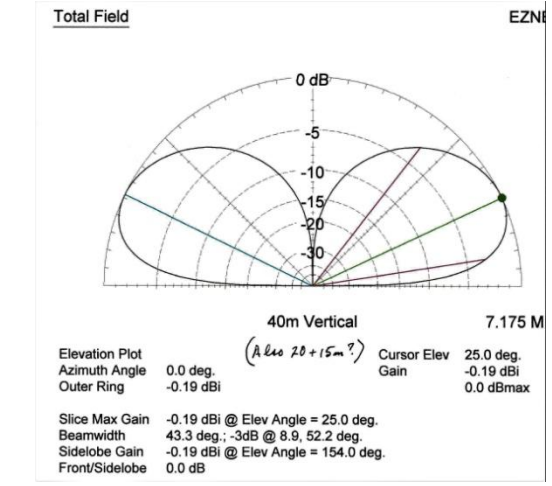
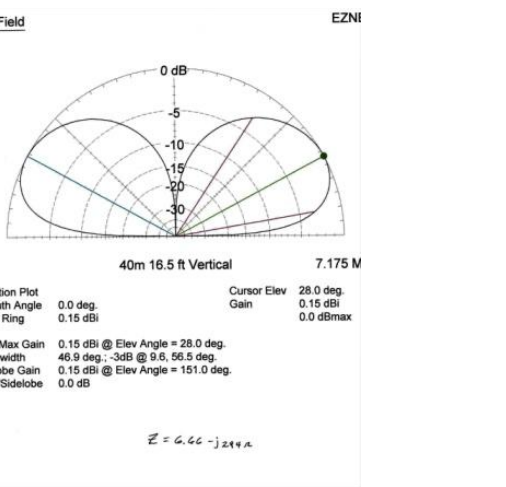
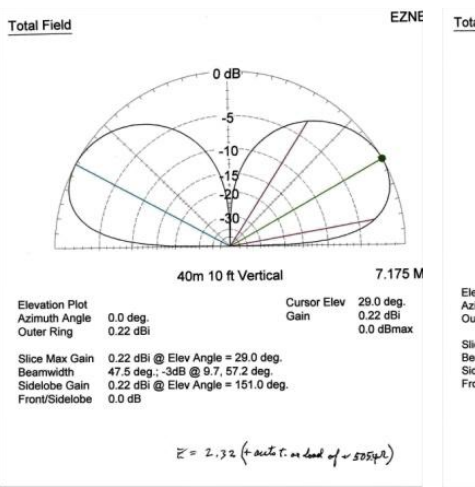
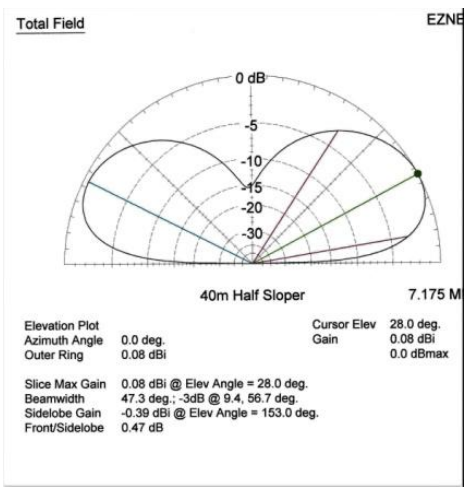
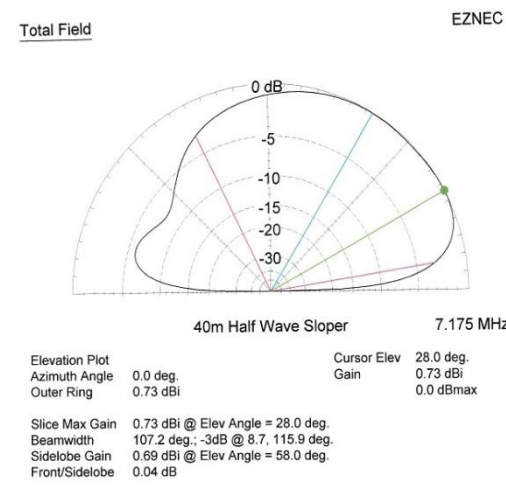
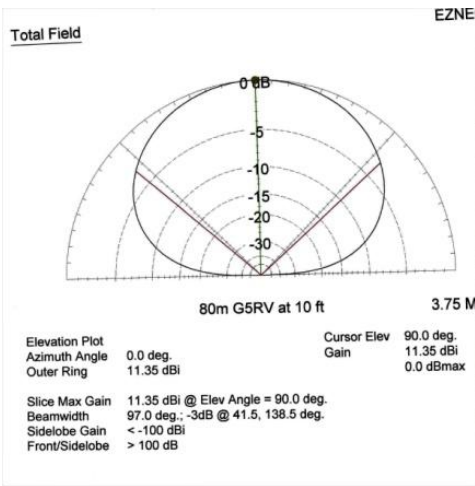
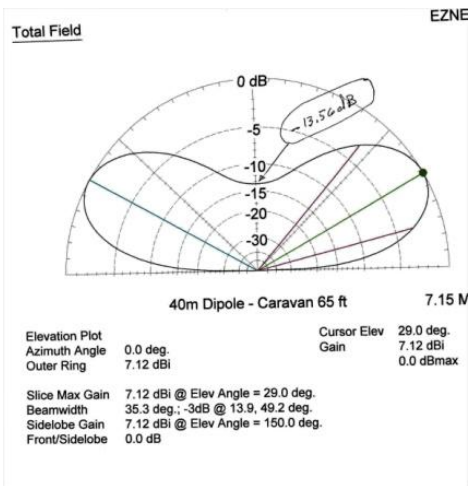
9. 40m Half Bobtail

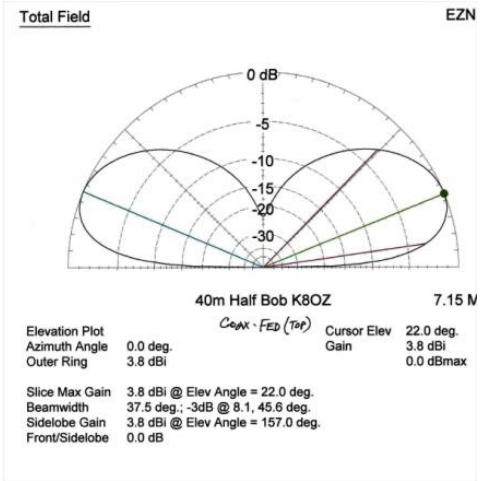
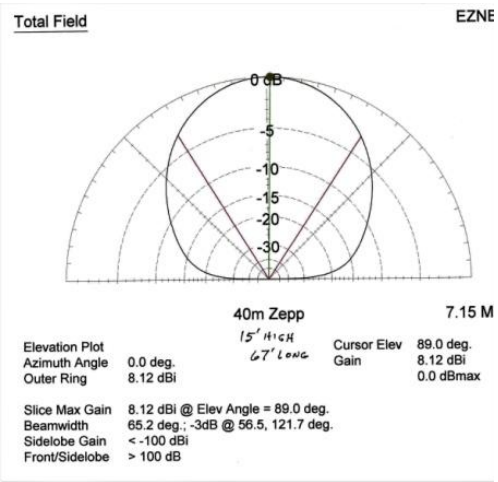
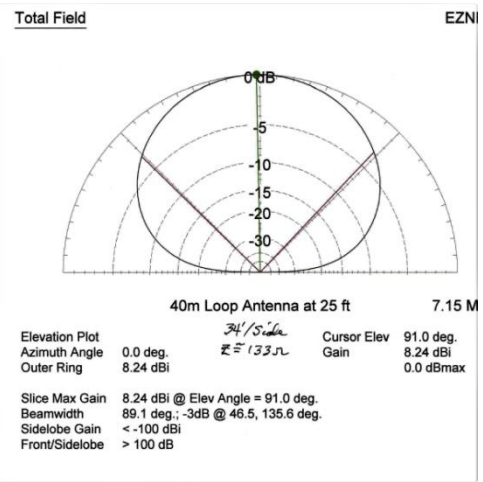
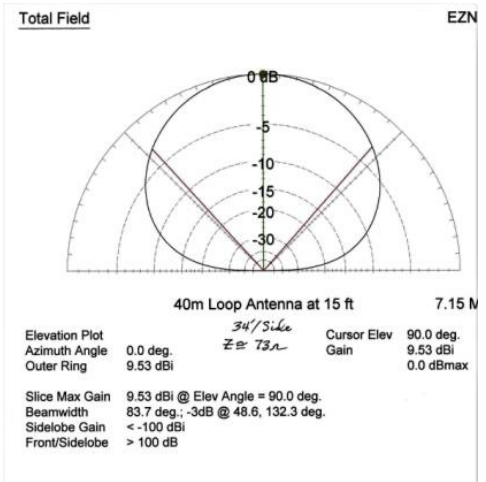
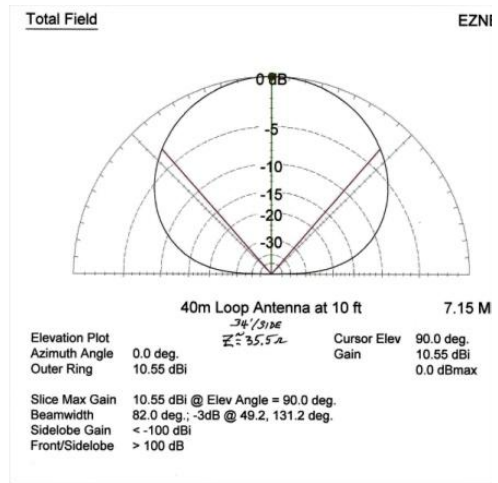
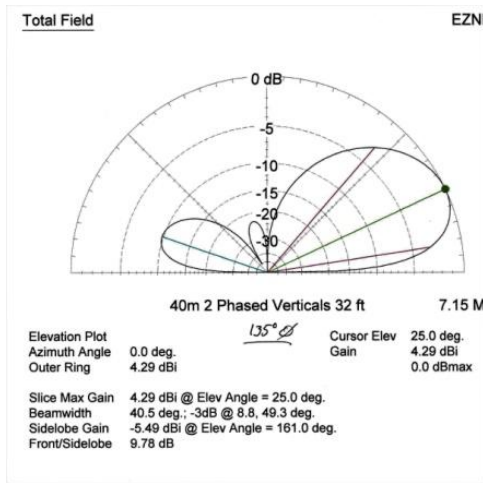
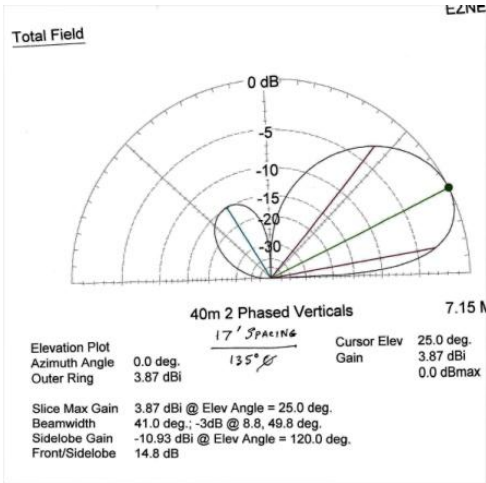
10. Low Noise Receive Antennas - White Board Demo

- a. Beverage
- b. EWE
- c. Flag
- d. Pennant
- e. Delta Loop
- f. Coaxial Loop

Conclusion







Conclusion

While each of the described antennas may have its respective limitations, each antenna also has its comparative advantages. It's up to the user to find the best antenna for his/her specific applications. There are many other antennas which may be considered, but the basics have been pretty well addressed in this compilation.

The fine tuning of antennas should include matching techniques and maximum possible reduction of common mode currents. The use of these approaches can provide years of enjoyable communications, world-wide.

Enjoy your journey!

73,
Jim, K8OZ