



Hi-Z Antennas TM

HIGH PERFORMANCE HF RECEIVING SYSTEMS & COMPONENTS

Mission Statement After decades of research and extensive engineering, Hi-Z was created from my passion in this field. Therefore my passion and experience is embodied in every product I design. Lee Strahan – K7TJR



Hi-Z Antennas - Introduction

- Who We Are
- What We Do
- Products
- How It Looks
- Accessories
- Options
- Product requests
- On the air results

- *Mission Statement* After decades of research and extensive engineering, Hi-Z was created from my passion in this field. Therefore my passion and experience is embodied in every product I design.

Who We Are



- Lee Strahan – K7TJR Engineer with 4+ decades of design experience , R&D and technical support (support@hizantennas.com)
 - 10+ Years in Designing HF Receiving Arrays
 - Dx'er and Contester
 - Hi-Z Antenna Range - East
- Richard Ewing – KO7N Marketing , Customer Service (contact@hizantennas.com)
 - Founder Of DX Engineering (OR) Not the current company
 - DX'er and Contester
 - Hi-Z Antenna Range - West



What We Do

- Design and Manufacture 160-40 Meters Phased Array Rx Systems (useable at higher frequencies)
- Components & Subassemblies for HF Receiving Systems
- R&D New Designs
- Analyze and Validate Designs



Products

- 2 element expandable to 4 element Phased Rx Arrays (2 or 4 directions)
- 3 element Triangular Phased Rx Arrays (6 directions)
- 4 element Vertical Phased Rx Arrays (4 directions)
- 8 element Phased Rx Arrays (8 directions)
 - Hi-Z 8 Super Directive phased arrays
 - Hi-Z 4-8PRO Smallest footprint 8 element circular array
- PnP – custom products, complete turnkey style, i.e. DX-Expeditions
- Hi-Z Amplifiers. In-line Pre-amps, HPF, BPF, others
- Phased Array Controllers
- Remote Shack Switches
- Complete Systems
- Components –add to your existing System
- New Products in the Pipeline – future Releases
- Product Requests – Looking for New opportunities
- Complete Info : www.hizantennas.com

How It Looks 1/2



K1CP



N5DG



NI7T

How It Looks 2/2



NK7U



OM8AW



K1CP

Accessories



- Hi-Z Amplifiers
- 4 Direction Remote Shack Switches
- 6 Direction Remote Shack Switches
- 8 Direction Remote Shack Switches
- In Line Preamps
- Filters – HBF, BCB (BCI)
- Signal Source
- More Coming



Product Requests

- While We Have New Designs in Development We Are Always Looking For New Opportunities. Whom Better For Gathering Product Ideas Than Our Customers?
 - Please send us ideas / requests to
 - support@hizantennas.com
 - OR
 - contact@hizantennas.com

Hi-Z vs. Them



Note: Measurements are at 20 deg elevation.					
Antenna	Gain	RDF	Front/Back	Beamwidth	
90 ft. top loaded TX vertical	1.4 dBi	4.9	N/A Omni-directional	360 degrees	
K9AY loop	-25.6 dBi	7.2	11.5 dB.	163 degrees	
4 square of K9AY loops	-22.2 dBi	9.1	18.9 dB.	58 degrees	
10 Foot Dia. tuned loop	2.2dBi	4.0	6.8dB F/Side Bi-directional	105 degrees	
Flag	-29.7dBi	7.4	22.8dB	146 degrees	
Beverage 1000 Ft.	-6.4dBi	12.3	31dB	63 degrees	
Beverage pair 1000 ft. 400 ft. space	-2.9dBi	14.6	40 dB	35 degrees	
Beverage 910 Ft.	-5.3dBi	11.9	15 dB	64 degrees	
Beverage 500 Ft.	-10.6dBi	9.0	23.9 dB	80 degrees	
Beverage 300 Ft.	-14.5dBi	6.5	9.9dB	89 degrees	
4 square Tx antenna	6.8dBi	10.7	25.5dB	99 degrees	
Inverted vee 120 ft.	-1.08dBi	.6	N/A omni	360 degrees	
Waller Flag	-54dBi	12.2	32dB	84 degrees	
2 element Hi-Z Cardioid - 50ft space	amplified	9.0	35dB	137 degrees	
Hi Z 8 element all active 200 ft circle	amplified	13.45	44dB	53 degrees	
Hi-Z Triangular Array -40 ft	amplified	9.21	39db	131 degrees	
Hi-Z 350 ft circle 4 active of 8	amplified	12.3	20.8dB	54 degrees	
Hi-Z Rectangular Array Bsef* Hiz vert array 70x320	amplified	12.9	28.8dB	51 degrees	
Hi-Z 4 square array - 80ft	amplified	12.13	41 db	72 degrees	

Hi-Z Antennas™ vs. Competition

Models	Competition	RDF	Directions	Bands	Upgradeable	Issues	Foot Print
Hi-Z 2 (2-4)	None	~9	2 or 4	Tba	2 or 4 directions		40 -50 feet
Hi-Z 3	None	9.2	6	160, 80, 40			40 - 50 feet
Hi-Z 4	Competition 5+ yrs old, WYSIWYG	>=12.2	4 upgradeable to 8 (4-8PRO UP)	160, 80, 40	PRO to 8 directions. YES	Competition= Array Safety Distance TX RF level issues	80 ft sq Competition=???
Hi-Z 4-8PRO	None	>=12.2	8 directions	160, 80, 40	YES		113 foot dia.
Hi-Z 8	Competition 5+ yrs old, - WYSIWYG	>=13.5	8 directions	160 or 80	YES	Competition =Array Safety Distance TX RF level issues	Hi-Z 200 ft dia. Competition= 350 ft dia.

Hi-Z vs Competition Issues

Competition states - Receive Eight Circle Array package for Close Spacing to Transmit Antenna – power and spacing issues

Competition states - Operates from 100 kHz to 30 MHz HOW??? What is the performance??

Hi-Z proudly posts performance validation plots; Competition does not

Competition states - Excellent directivity for better signal-to noise ratio - based on what and over what frequency range???

We use robust vertical elements vs. their CB whips

Competition Vertical amps are easily overloaded; Hi-Z Amps are Robust and Immune to RF dense environments

Hi-Z Antennas™ vs. Beverages

Models	Beverage, comparable length, see foot notes	RDF Hi-Z	Directions	Bands Hi-Z	# of Beverages to = Hi-Z Directions	Issues / Comments	Foot Print – Hi-Z
Hi-Z 2 (2-4)	540-880 ft Long	~9	2 or 4	Tba	1 or 2 dual	Beverages require a lot of acreage	40 -50 feet
Hi-Z 3	880 ft Long	9.2	6	160, 80, 40	3 dual		40 - 50 feet
Hi-Z 4	880 ft Long	>=12.2	4 upgradeable to 8 (4-8PRO UP)	160, 80, 40	2 dual		80 ft sq
Hi-Z 4-8PRO	540-880 ft Long	>=12.2	8 directions	160, 80, 40	4 dual		113 foot dia.
Hi-Z 8	880- 1100ft Long +	>=13.5	8 directions	160 or 80	4 dual		Hi-Z 200 ft dia.

Beverage Issues:

- Maintenance – medium to high
- Lots of land
- Less S/N Performance
- Less directive
- Poor low angle response
- Performance effected by ground environment

Hi-Z Benefits:

- Hi-Z compares to 1100 ft phased beverages
- Significantly less land required
- Less cabling required (one coax feed, one control cable)
- Hi-Z 8 is a SUPER Directive array
- Better suited in tropical or high noise environments due to pattern response
- Not effected by poor ground
- No radials

On The Air Results



- Actual On The Air QSOs, Hear For Yourself, You Be The Judge

- IV₃PRK 📢
- XU₇ACY 📢
- VK₉LA – Special Demo Track 📢

Demonstrates switching between Our Best RX Array and a TX Antenna.



Note: "If the sound bites will not play in your Power Point Viewer please go to http://www.hizantennas.com/sound_bites.htm"

When The Light Is On
You Are DX READY..!!!

Testimonials 1/2



- **8 Element Circular Array testimonials**

- 160- (200 ft dia.)
- N4NN Dale
- I like this array (Hi-Z 8) more every day! N4NN
- This HI-Z is kicking ass and taking names. N4NN

- **4 Element Array**

- N4BAA – Jose: To the inth degree!! I am not going to report for a week or so if I can help it! BUT.....this morning..heard BU2AQ for the first time ever. The 4 square was better than either my NW or SW 88o foot beverages with "commercial" transformers...so So far ..so good! Just amazing actually....
- W5XZ: ITS WORKING!!!!!!!!!! just as modeled. COULD NOT BELIEVE IT WHEN I SWITCHED IT AROUND!!! SIGS GO AWAY!!! thought it was broken!! very nice side rejection also. REALLY amazing.
- N7XM:**The ARRAY is WONDERFUL!!!! really wonderful !!! Worked EUROPEANS EASILY and can OUT HEAR many people calling on top of the DX**
- W4ZV: In the two days I've used the system I've been very pleased with it. I optimized my array spacing and delay lines for maximum F/R performance (...not RDF) per K7TJR's analysis. I'm running the 4SQ to one RX in my K3 (in diversity) with my Beverages going to the other RX. Although a 1200' Beverage is a little better than the 4SQ, the latter is not bad especially considering it's all contained within an 80' X 80' area and covers all directions. If I was space constrained, I would definitely have one of these as my primary RX antenna.
- N9BX: So far the performance has been spectacular!. This morning I could not even hear 3d2KJ on 1.8 with my vertical, but he was perfect copy on the 4 square, and on 80 meters it performs just as well.

Testimonials 2/2

- K4SV: So far the antenna has awesome Front to Back and Front to Side and has very similar sensitivity to my 540 foot beverage. I have to have an inline preamp in but considering it has 700 feet of feed line that is not bad. The signal to noise is much better than the 540 foot beverage so I will not hear as much noise.
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- **Triangular Array testimonials**
- K1CP Want to let you know that my Triangle antenna continues to work very well when the noise level here is reasonable; just got a QSL from JT1CO for a 160M QSO that used the triangle on rx.
- K1CP The triangle really works great when the noise here isn't bad; IMO better than the K9AY.
- MORE at http://www.hizantennas.com/hiz_testimonials.htm

Hi-Z NEWS



- DX Expeditions That Choose Hi-Z
- Top DX / Contesters That Choose Hi-Z

What Else

- Questions??



THANK YOU



- We Sincerely Appreciate The Opportunity To Discuss Hi-Z Antennas With You.
- Questions, Application Scenarios, Product Info:
 - E-MAIL Us At contact@hizantennas.com
 - Visit Our URL: www.hizantennas.com
- Good Luck, Remember if You Can't Hear Them, You Certainly Can't Work Them – Check Out Our Customer Testimonials

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