Product Release R4

HIGH PERFORMANCE

HF RECEIVING SYSTEMS & COMPONENTS

www.hizantennas.com

OUR GOAL - Innovating and Improving the Science of Receiving Systems.

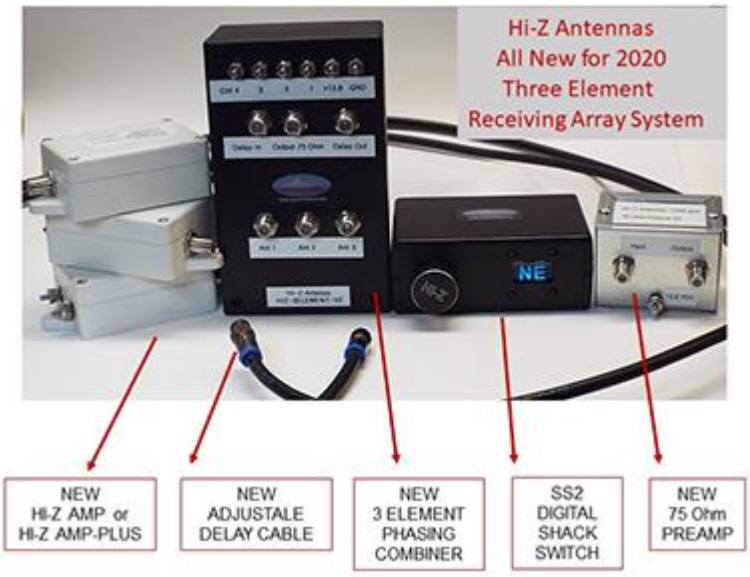
Greetings from Hi-Z antennas™,

Hi-Z Antennas™ New product announcement.

Modernizing the construction and Performance of
The Hi-Z Three Element Triangular Receiving Array

HIZ-3A-V2-SS2, HIZ-3A-V2-SS2P, HIZ-3A-V2P-SS2, HIZ-3A-V2P-SS2P

Hi-Z announces a totally new concept for the 3-element receiving array.



Select the array package to purchase that includes the new Version 2 components you need and the Shack Switch you desire. Also, the physical arrangement of the array has been changed to allow 40 to 50 foot element spacing with a single 3 Element Triangular Array Phasing Controller and special Delay Cable, both included in each package.

Each Component has its own description on the www.hizaantennas.com web page

by accessing the 3 Element page.

This new array design places the elements into specific positions that form an equilateral triangle, which allows the V2 Phasing Controller to be much more accurate in combining the three signals for 6 directional pattern selections.

Model:
HIZ-PC-3A

This Triangular Controller processes the signals from 3 High Impedance Vertical Elements with Hi-Z Amplifiers providing the selection of 6 different switchable receiving directions.

The Triangular Controller uses a segmented delay cable that allows the user to erect the verticals between 40 and 50 feet spacing. This segmented cable also allows the user to select the desired Front to back ratio and resultant RDF. RDF being the Relative Directivity Factor.

The Instruction Manual for this component shows many patterns for different array dimensions and phasing cable delay selections. In addition to the delays and the physical layout there is another valuable consideration in deciding each array layout.

Using the 50 foot element spacing will result in slightly better RDF and pattern on 160 meters and less RDF and pattern on 40 and 30 meters.

Using the 45 foot element spacing is a very good compromise for 160 meters including 40 and 30 meters.

Using the 40 foot element spacing maximizes the array capability on 40 and 30 meters while losing slightly on 160 meters.

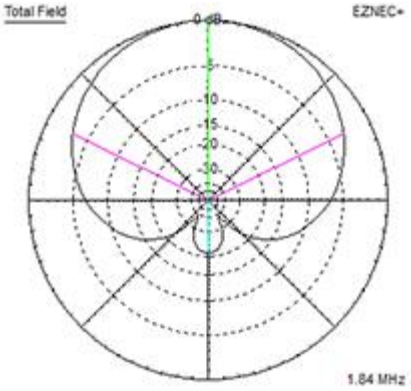
There are many array patterns listed in the instruction manual.

This Triangular Controller Enclosure is 6 ¼ X 3 ¾ X 2 ½ Depth including connectors. This Triangular Controller operates from user supplied 11 to 14 Volts DC with 13.8 being normal at 250 ma. or less. User also supplies 5 conductor cable with 4 conductors used for direction switching and one for DC power. A Ground wire can be supplied also but is normally carried by the Output signal coaxial cable. This Triangular Controller also supplies the nominal +13.8 VDC to the Hi-Z amplifiers installed at the elements over their connecting coaxial cable.

Direction switching in the user's radio shack is done with the Hi-Z SS2 or SS2-PLUS Shack switches. The SS2-PLUS providing USB array control using a computer. SS2 and SS2-PLUS information is available on the www.hizantennas.com website or at www.DX Engineering.com website.

Selection of the 2 versions of Hi-Z amps available will depend somewhat on the users location. If the user is in a VERY quiet RF location on the lower bands then the HIZ-AMP-V2P is reccommended. Using the HIZ-AMP-V2P may also preclude the need for an array post amplifier if 20 to 24 foot elements are used. Using thin diameter or wire 15 to 20 foot elements or less in normal quiet suburban areas one should use the HIZ-AMP-V2P which has 6 dB more gain and lower noise figure.

Quiet locations, short elements, or in shack splitting of the array signal typically require post Triangular Controller amplification. The new Hi-Z PREAMP-75-V2 will provide low noise gain of 17 dB.



Some Typical Array Patterns and RDF Values

These patterns a for an array spacing of 45 feet and a 24 degree phase delay at 1.840 MHz

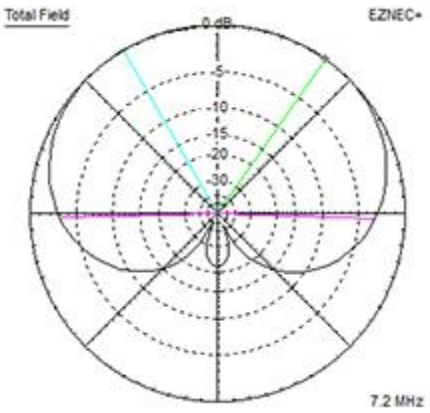
RDF 9.45

F/B 21 dB

Beam width

128 Deg

The same layout and phasing as above only at 7.2 MHz

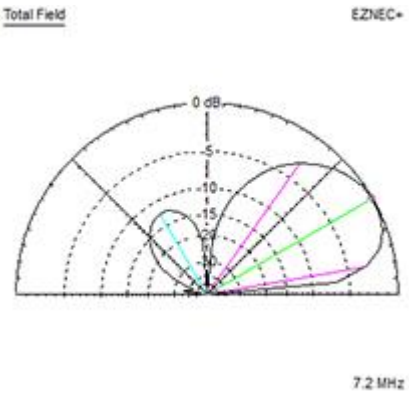


RDF 7.90

F/B 22 dB

Beam Width

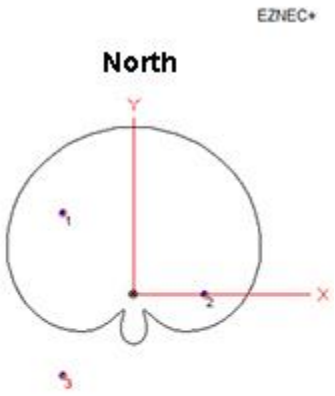
183 Deg



These patterns show the flexability of selecting ones own array size layout. The patterns and RDF can be optimized for any installation and band desires up to 30 meters. Refer to the manual.

Specifications:

- **Designed for phasing and amplifying small Vertical antennas into a receiving array**
- **Features an cable impedance of 75 ohms with for use with common RG-6 cable**
- **Features Electrical 6 direction selection**
- **Features Powered with less than 250 ma.**
- **Features power over coax to the High Impedance Element amplifiers**
- **Features all connectors on one side for easy mounting under a rain bucket or cover**
- **Features an RF directionally useful bandwidth of 10.3 MHz and higher**
- **Features modern Surface Mount Technology for most components**
- **Features typical Ham shack operating voltage of +13.8 VDC (11 to 14 VDC)**
- **Features MOV power supply overvoltage protection**
- **Features Diode and MOV transient protection components on power and switching lines**
- **Features New enhanced gain and amplitude stability over a wide temperature range**



Notice the new element placement in relation to the compass directions This has allowed better performance in all available directions

More information is available at
www.hizantennas.com or e-mail contact@hizantennas.com
As always Hi-Z products are only available through DX Engineering At
www.dxengineering.com

Any questions or inquiries please e-mail us at contact@hizantennas.com .

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