



Product Release R0

HIGH PERFORMANCE

HF RECEIVING SYSTEMS & COMPONENTS

www.hizantennas.com

OUR GOAL - Innovating and Improving the Science of Receiving Systems.
Hi-Z Antennas™ New product announcement.

*Modernizing the construction and Performance of
The Hi-Z Four Element Square Receiving Array*

Hi-Z announces a complete Redesign for the 8Pro circle receiving array for
Improved physical design and accuracy of Phasing and Amplitude levels.



NEW
Hi-Z AMP or
Hi-Z AMP PLUS

NEW
PRECISION
DELAY CABLES

NEW
PC-8Pro 8 Circle
PHASING
COMBINER

SS2
DIGITAL
SHACK
SWITCH

NEW
75 OHM
PREAMP

HIZ-8Pro-V2-SS2, HIZ-8Pro-V2-SS2P, HIZ-8Pro-V2P-SS2, HIZ-8Pro-V2P-SS2P

DX Engineering Array Packages

Select the array package to purchase that includes the new Version 2 components you need and the Shack Switch you desire.

The physical arrangement of the array has been changed to allow 85 or 113 foot diameter array with a new 8 Element Circle Array Phasing Controller and new Delay Cable, both included in each DX Engineering package.

Each Array Component has its own description on the www.hizantennas.com web page by accessing the 8Pro page.

This new Phase Combiner design requires the elements be 45 degree equally spaced around an 85 feet or 113 feet diameter circle. The new 8 element Phasing Combiner has a set of internal jumpers that allow its use with the 85 or 113 foot diameter circle array layout. Reception is inline with the selected direction.



Model:
HIZ-PC-8Pro

This Circle Array Controller processes the signals from 8 High Impedance Vertical Elements with Hi-Z Amplifiers providing the selection of 8 different switchable receiving directions.

The HIZ-PC-8Pro array Controller uses one of two available sets of delay cables that allows the user to erect the verticals for 85 or 113 feet diameter circle with 45 Degree spacing. Hi-Z offers two Delay Cable sets with one each recommended for either array size. The Manual Appendix C contains information for the user that has selected a user value for Front to back ratio and resultant RDF by modifying the delay cables.

RDF being the Relative Directivity Factor. Essentially signal to noise improvement factor, SNIF.

Delay cable set part numbers are HIZ-DL4-60-85 for 85 feet diameter array and HIZ-DL4-80-113 for 113 feet diameter array.

The Instruction Manual for this HIZ-PC-8Pro Phase Combiner 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 113 foot circle spacing will result in the same patterns on 80 meters as on 160 meters with slightly more signal level but loss of pattern on 40 meters. RDF is essentially the same on 160 meters for either 85 or 113 foot array diameter.

Using the 85 foot circle diameter is the Hi-Z Recommendation for 160 meters that includes the best patterns on 160, 80, 60, and 40 meters.

There are many array patterns listed in the instruction manual including our recommended ones for either element spacing.

This 8 Element Controller Enclosure is 7 3/4 X 4 1/2 X 3 inches Depth including connectors. This 8 Element Controller operates from user supplied 11 to 14 Volts DC with 13.8 being normal at 550 ma. or less. User also supplies 5 conductor cable with 3 conductors used for direction switching, one for 11 to 14 VDC and one for power ground. This 8Pro circle array 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.

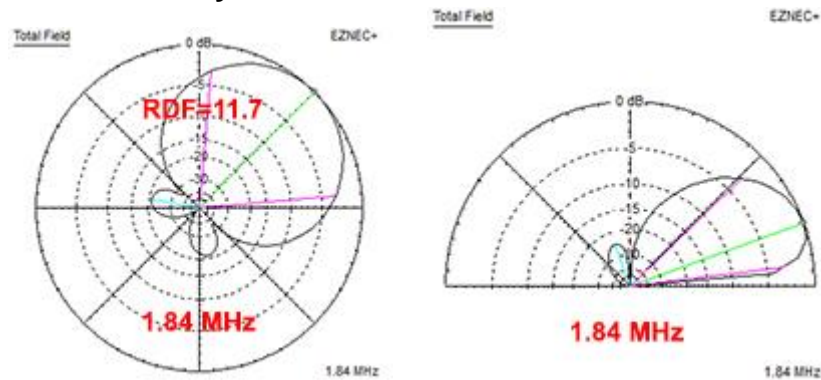


Selection of the 2 versions of Hi-Z amps available will depend somewhat on the users location. If the user is in a VERY quiet RF location on the lower bands then the HIZ-AMP-PLUS is recommended. Using the HIZ-AMP-PLUS may also preclude the need for an array post amplifier if 20 to 24 foot elements are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

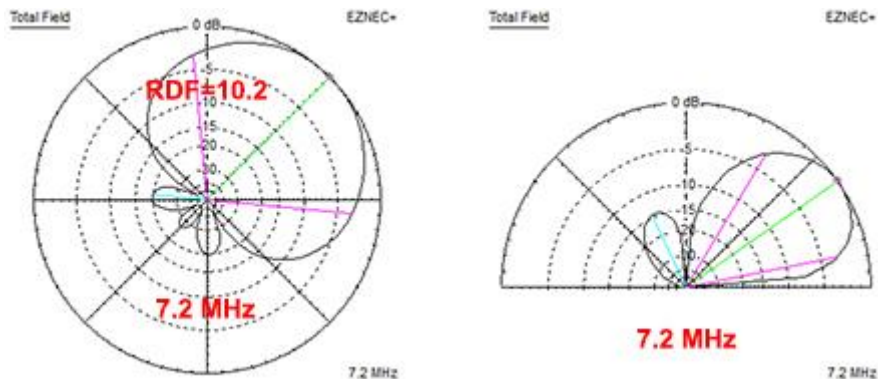
Quiet locations, short elements, or in shack splitting of the array signal typically require post 4 element Controller amplification. The new optional Hi-Z-PREAMP-75-V2 will provide low noise gain of 17 dB.

Some Typical Array Patterns and RDF Values

These patterns are for an array diameter of 85 feet and recommended delay cables.

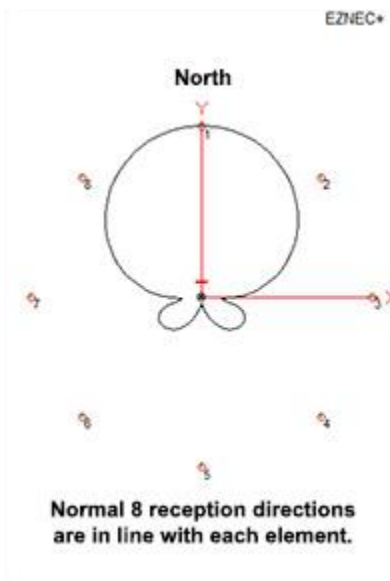


The same layout and phasing cables as above only at 7.2 MHz



Specifications:

- Designed for phasing and amplifying small Vertical antennas making a receiving array
- RDF as high as 12 dB and or Front to Back up to 30 dB or more
- Features a cable impedance of 75 ohms with for use with common RG-6 cable
- Features Electrical 8 direction selection
- Features Powered with less than 550 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 7.3 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



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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