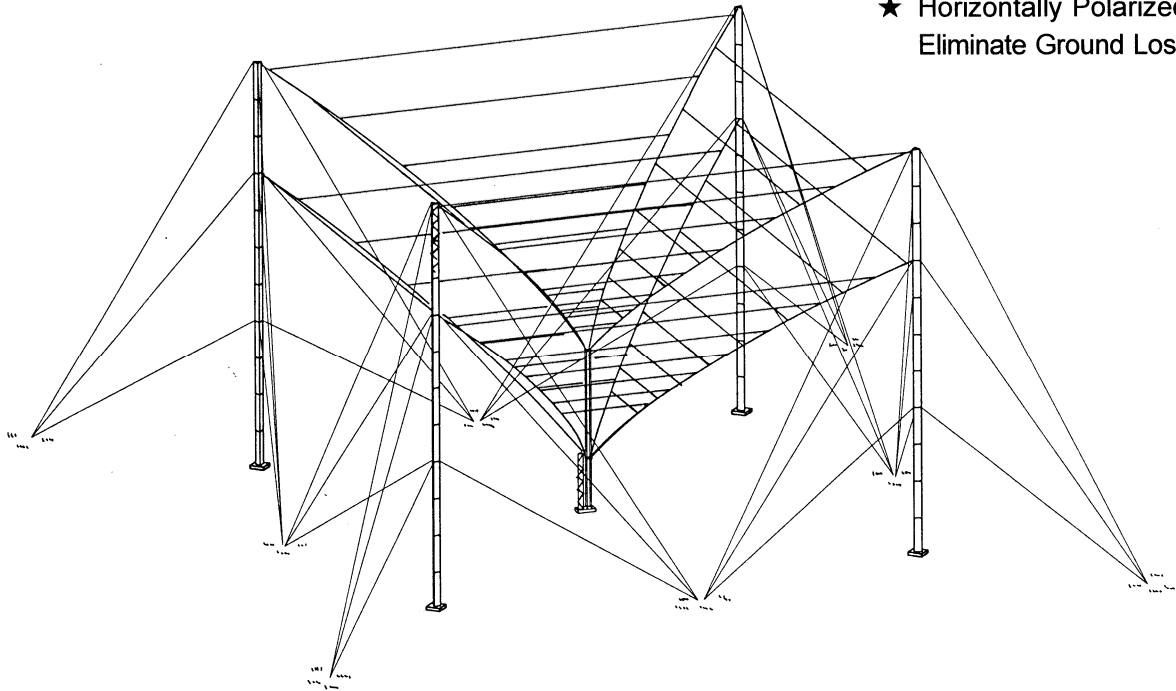




Omni-directional LP-Antenna 431H-x

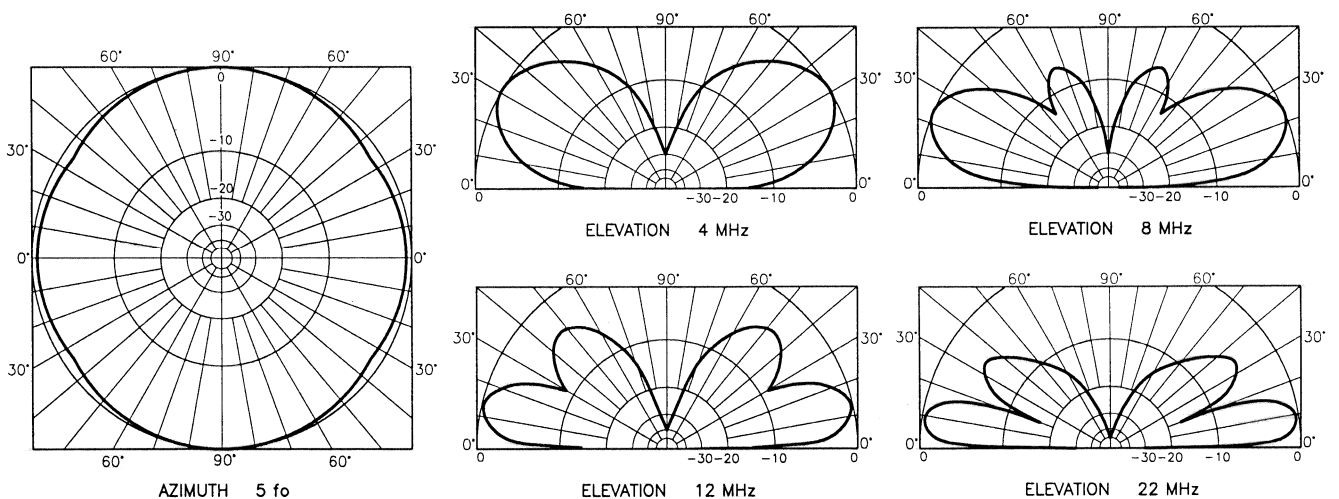
- ★ Improved Medium-Long Range Communication
- ★ Horizontally Polarized to Eliminate Ground Losses



431H-1, Illustration

This 431H is an omni-directional horizontally polarized high gain log-periodic antenna. There are several types of antennas existed in the omni-directional type like an inverted cone. In comparison with these typical type of antennas, this 431H however serves a higher gain in its performance in the communication distance from medium to long range. The characteristic of this antenna is unique which constructed with multiple medium-to-long range directional log-periodic antennas formed into once compact size omni-directional antenna. Radiation pattern of 431H is comparatively similar to what of inverted cone owns, but is an ideal for the communication in the range over 1000 km as the factor of ground loss is smaller than that of inverted cone type has due to its horizontal polarization characteristic, therefore superior in propagation and S/N ratio. This antenna is suitable for small antenna site as the land area required for installation is smaller and needs also less cost for installation, comparatively less trouble since the size of antenna is small and the construction of antenna is comparatively simple.

Elevation and Azimuth Patterns (Azimuth Pattern at 30° Elevation)



SPECIFICATIONS

Model No.	431H-1	431H-2
Frequency Range	4~30 MHz	6~30 MHz
Polarization	Horizontal	Horizontal
Foward Gain, (Above 20MHz)	10 dBi	10 dBi
(Below 15MHz)	7 dBi	7 dBi
Azimuth Pattern	- Circular Within ± 1 dB -	
Maximum Radiation Angle	10° to 30°	10° to 30°
VSWR	Less Than 2.5:1	Less Than 2.5:1
Input Impedance	50 ohms	50 ohms
Antenna Height	34 m	25 m
Demension Guy To Guy	83 x 83 m	55 x 55 m
Necessary Area for Installation	6600 m ²	3000 m ²
Wind Loading Capability	45 m/s	45 m/s
System Net Weight	4000 kg	3300 kg

Note: Use an appropriate sub-model number when specifying or ordering a system.

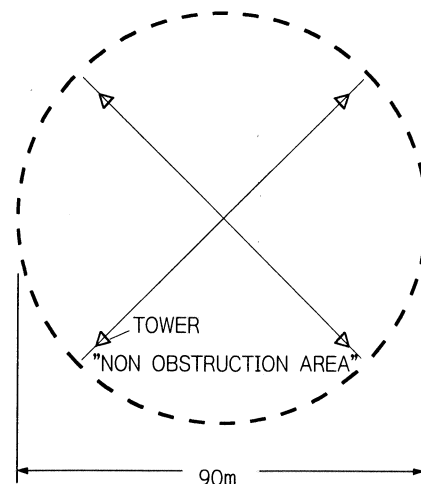
	Power	Connector
431H-x-1.	Receive or 100W Transmit	Type -NJ- Female
431H-x-2.	Transmit, 1 kW Ave./2 kW PEP	Type -NJ- Female
431H-x-3.	Transmit, 5 kW Ave./10 kW PEP	Type 7/8" EIA. Female
431H-x-4.	Transmit, 10 kW Ave./20 kW PEP	Type 1-5/8" EIA. Female

ELECTRICAL STRUCTURE

This 431H is a horizontally polarized omnidirectional LP antenna. This antenna is structured in 2 phases and is constructed of an inverted pyramidal radiators. The radiator is formed in 2 units (totally 4 units) combined in both upper and lower position being connected with each other. By these structure, it enables to make an omnidirectional characteristic, low radiational take-off angle as well as a superior high gain characteristic. Each radiator of both upper and lower position is connected together with a two-twin line (4-line) for combine purpose in which consists of a 50 ohms transformer is constructed in the splitting part in the center section.

SITE SELECTION

Construction of a CD model 431H required a site illustrated in Figure 1A. Unless the differences in height across each concrete foundation are within 0.5m, the component parts provided will have to be modified for the construction. It should be noted in terms of the electric performance that any tall metallic structure within some 45 m radius from the center of the antenna could disturb the horizontal beam pattern. The peripheral area around the concrete paved ground for the antenna should be well drained.



SITE PLAN 431H-1