TUNED CIRCULAR POLARIZATION ANTENNAS

Model <u>ACP 0</u>.

CIRCULAR TUNED ANTENNA

FM BAND 87.5-108 MHz.

- BAND II
- TUNED ANTENNA
- TRUE CIRCULAR POLARIZATION
- STAILESS STEEL INOX AISI 304

This antenna offer the possibility of simultaneously utilizing vertical and horizontal polarization for better coverage especially in urban areas.

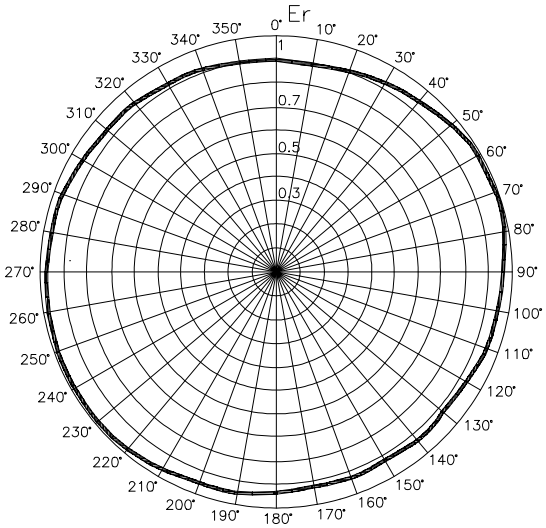
Electrical Data

Model	ACP 0
Impedance	50 ohm.
Frequency Range	87.5 - 108 MHz. (4-5 MHz)
Gain	-3.4 dB. (ref.to half wave dipole)
VSWR	1.1:1 ± 100 KHz
Az. Patt.n Circularity	Horizontal component ± 1.5 dB
Polarization	Right circular
Connector type	N-female – LC-7/16" option
Max. power	800 W
Combinations	Collinear system

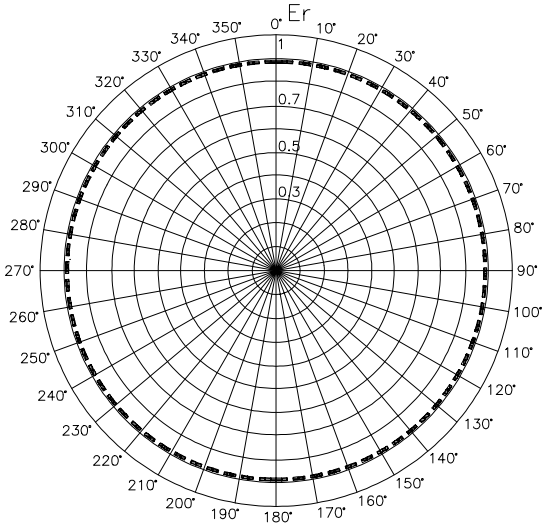
Mechanical Data

Wind load	20 Kg 150 Km/h
Max. wind velocity	200 Km/h
Weight	3 Kg without clamp
	7 Kg with clamp
Mounting	With standard clamp top cover 50-110 mm.
Option	White fiberglass radome
Dimensions	100 x 30 x 80 cm.

RADIATION PATTERNS (F=98 MHz)



Horizontal Pattern



Vertical Pattern

Gain, Power, Tower space:

no. of Bays	Gain		Power Rating	Vertical Tower Space					
				Antenna Radiation Aperture		Pipe length Required		Total Tower space Recommended	
	Pwr	dB	W	ft	m	ft	m	ft	m
1	0.46	- 3.40	800	2	0.7	10	3.1	20	6.1
2	0.99	- 0	1500	10	3.1	20	6.1	30	9.1
3	1.55	1.90	2000	20	6.1	30	9.1	40	12.2
4	2.12	3.20	2500	30	9.1	40	12.2	50	15.2
5	2.70	4.30	3000	40	12.2	50	15.2	60	18.3
6	3.28	5.20	3500	50	15.2	60	18.3	70	21.3
8	4.40	6.50	4500	70	21.3	80	24.4	90	27.4
12	6.85	8.40	6500	110	33.5	120	36.6	130	39.6

Windload & Weigh

no. of bays	windload without radomes		weight without cable, divider, only clamp standard pipe mounting	
	lb	Kg	lb	Kg.
1	6	2.6	15	7
2	14	6.2	46	21
3	21	9.7	64	29
4	29	13.3	81	37
5	37	17	99	45
6	45	20.5	117	53
8	61	27.7	167	76
12	93	42	330	150

when antenna is pole mounted at the top of a tower the horizontally polarized radiation pattern is omni-directional. Circularity is usually 1.5 - 2 dB horizontal component when the antenna is mounted on a 100mm diameter steel pole. If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.

Please note: Vertical tower space, windload and weight numbers given are typical. Actual values vary with the specific installation. Contact us with details of your installation if more precise values are needed.

Gain is provided for one polarization and is equal in circularly polarized antennas for both horizontal and vertical components. Gain will be reduced if null fill, beam tilt, special h/v ratio, or special wavelength spacing is provided.
Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay. Five ft(1.6mt.) of pipe is required above the top of the top bay and below the bottom of the bottom bay.
Total tower space recommended allows ten feet (3.1) of clear tower space above and below the pipe to protect from pattern interference by other antennas.

Windloads and weight tabulations assume 98 MHz. And include bay, interbay feedline, input connection, and power dividers.

Antenna windloads are calculated for 112 mph (180kmh) - 50 psf (244kg/m2) for flats and 33 psf(161 kg./m2) for rounds - per EIA standard RS-222-C. The surface area is calculated per EIA standard RS-222-f.

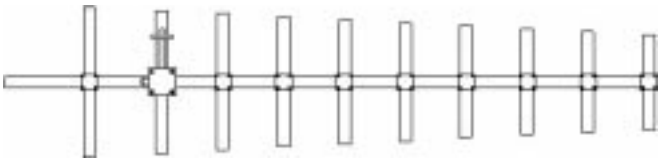
To convert figures o metric, multiply lb by 0.4536 for kg. Divide ft by 3.281 for meters. Multiply ft2 by 0.0929 for m2. To convert figures to imperial, divide kg by 0.4536 for lb. Multiply meters by 3.281 for ft. Divide m2 by 0.0929 for ft2.

RADIO LINK ANTENNAS

Model AR10.

10 ELEMENTS YAGI ANTENNA

RADIO LINK ANTENNA 250-550 MHz.



Yagi antenna type AR10 is a horizontal or vertical polarized antenna.
It is intended for use in the frequency range 250-550 MHz.
It is entirely made of aluminium and paint protected. By simple 90° in clamp turning it is possible to fix the antenna in vertical or horizontal position to a tube having diameter 40-80 mm.

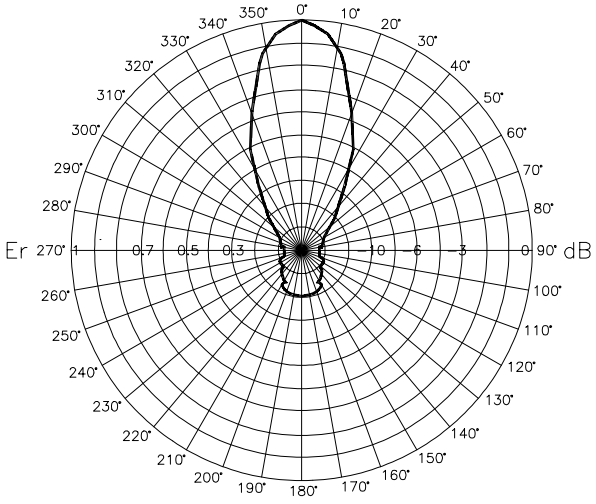
Electrical Data

Model	AR10
Impedance	50 ohm.
Frequency Range	250 - 550 MHz.
Gain	10 dB.
VSWR	1.35
Polarization	Vertical or horizontal
Connector type	N

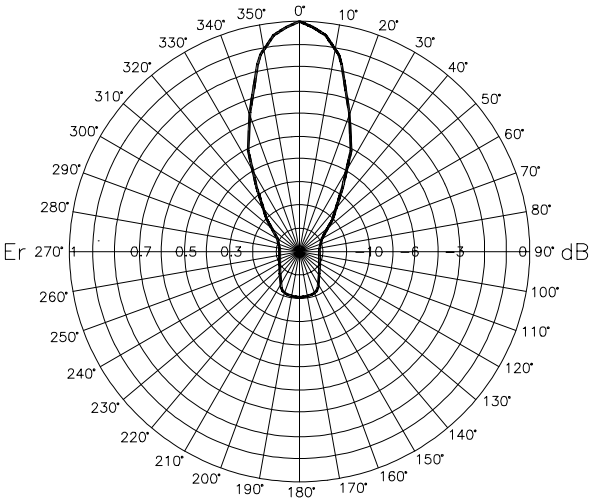
Mechanical Data

Weight	3 Kg without clamp
Dimensions	Length. 1650 mm.

RADIATION PATTERNS (F=400 MHz)



Horizontal pattern



Vertical pattern

Model AR0716.

16 ELEMENTS STEEL YAGI ANTENNA

RADIO LINK ANTENNA 740-990 MHz.

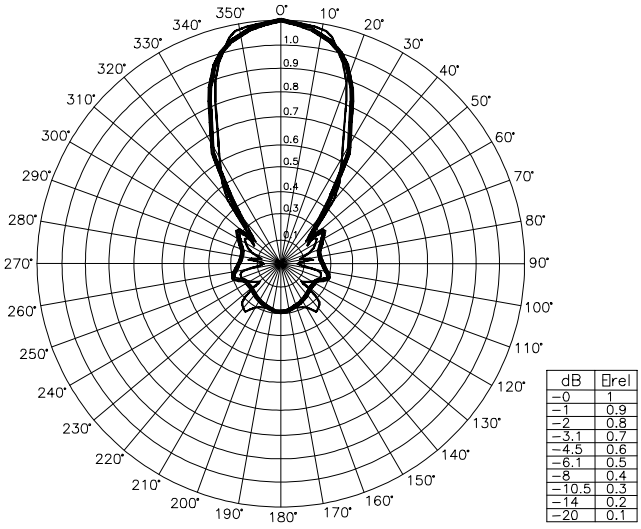
Electrical Data

Model	AR0716
Impedance	50 ohm.
Frequency Range	740 - 990 MHz.
Gain	14 dBd. (16.2 dBi)
VSWR	1.5:1
Polarization	Vertical or horizontal
Connector type	N Female
Power rating	100 W
Half power beamwidth	E plane 45°
	H plane 50°
Lighting protection	DC grounded antenna

Mechanical Data

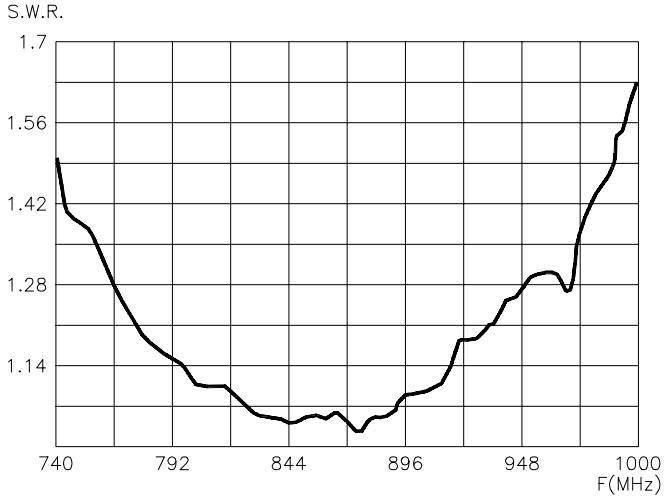
Weight	4 Kg with support joint
Support joint	40-70 mm. Pipes diam.
Dimensions	1200 x 260 x 90 mm.
Packing	1250 x 290 x 130 mm.
Wind load (160 Km/h)	47 Kg
Materials	Stainless steel cradle and elements silver plated
	Brass matching lines and connector.
	Teflon insulator. Fiberglass cover.
	Hot deep galvanized support joint.

Polar pattern on two planes of antenna (F=900 MHz)



dB	Erel
−0	1
−1	0.9
−2	0.8
−3.1	0.7
−4.5	0.6
−6.1	0.5
−8	0.4
−10.5	0.3
−14	0.2
−20	0.1

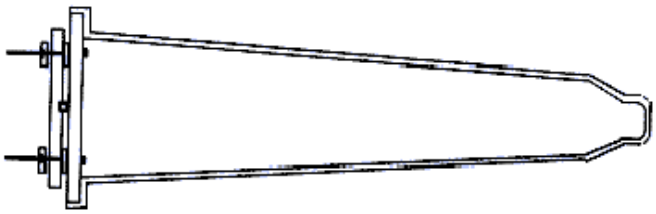
Standing wave ratio pattern of antenna



Model ACE922.

HELICOID DIRECTIVE ANTENNA

RADIO LINK ANTENNA 1500-2500 MHz.

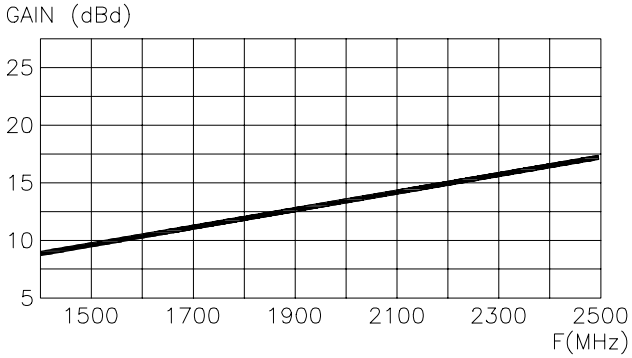


Electrical Data

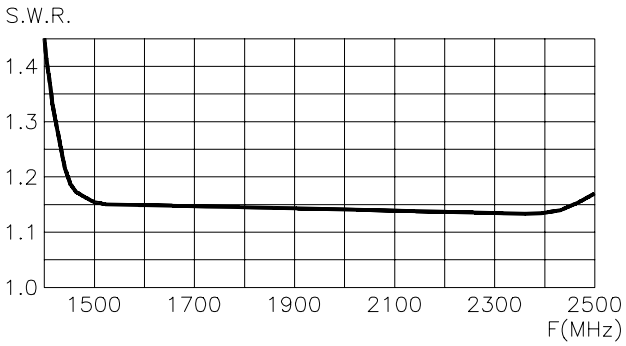
Model	ACE922
Impedance	50 Ohm.
Frequency Range	1500 - 2500 MHz.
Gain	17 dBd. (19.2 dBi) at 2500 MHz
VSWR	1.5:1
Polarization	Right-hand circular
Connector type	N Female
Power rating	100 W
Half power beamwidth	20° at 2500MHz
Lighting protection	DC grounded antenna

Mechanical Data

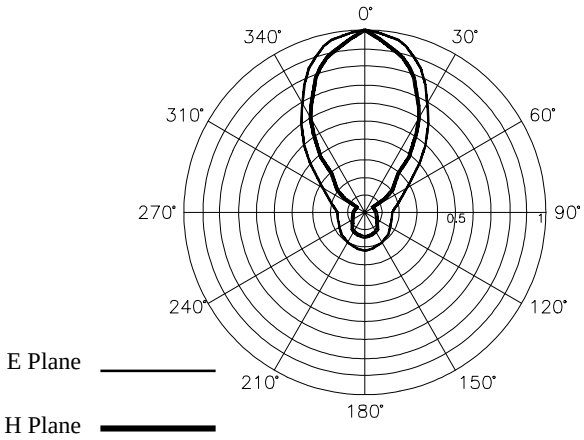
Weight	5 Kg with support joint
Support joint	40-70 mm. Pipes diam.
Dimensions	970 x 210 x 210 mm.
Packing	1000 x 230 x 230 mm.
Wind load (160 Km/h)	42 Kg
Materials	Fiberglass radome. Aluminium reflector.
	Stainless steel spiral and bolts.
	PVC spiral support.
	Support joint in hot galvanized steel.



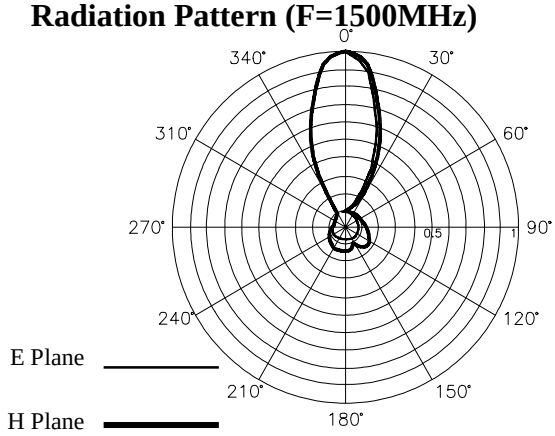
GAIN DIAGRAM



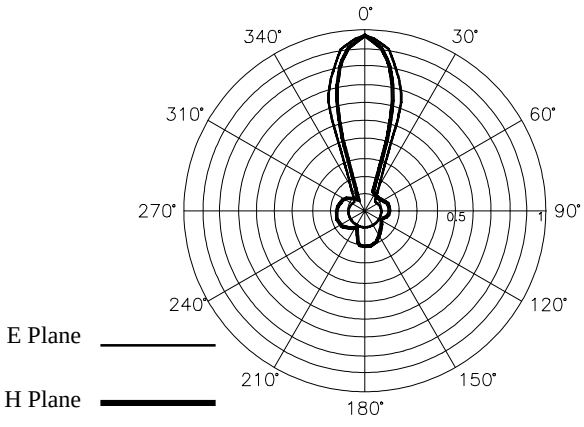
STANDING WAWE RATIO PATTERN



Radiation Pattern (F=1500MHz)



Radiation pattern (F=2000 MHz)



Radiation pattern (F=2500 MHz)