

Digital Microwave Radio Antenna Solutions

Introduction

Radio Waves is a proven supplier of innovative, high quality, competitively priced microwave antennas. Radio V and manufactures antennas for Internet Service Providers, cellular/GSM base station interconnects, campus en networks. Radio Waves manufacture their products from its Billerica, Massachusetts headquarters and also has United Kingdom to service the European and African markets.

Radio Waves are the recommended supplier of antenna for the CODAN 8800 series digital microwave radio.

Features and Benefits

Radio Waves manufacture the Proline family of antenna integrating directly to the CODAN 8800 Outdoor Unit for up to and including 1.8meters in diameter. Integrating directly to the ODU means that expensive flexible waveguide connection to the antenna thus providing a significant cost saving. If required a full range of standard mount (used available through CODAN).

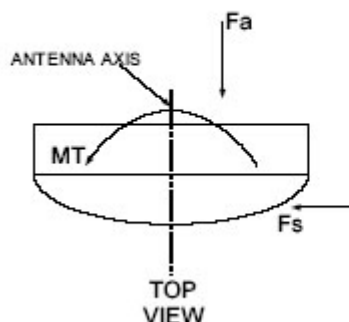
The High Performance Covered Antenna is the Radio Wave antenna selected by CODAN due to the superior RPE (RPE) performance and the ability to reduce interference. The High Performance antenna is manufactured of sp tolerances with an integral rim for enhanced reflector structural integrity. The Shroud is also manufactured using radome to protect the Cassegrain feed and reduce wind-loading stresses applied to the tower structure.

The antenna mounts to a 114mm pole mount for all versions while the smaller antenna (0.3 and 0.6 meters) can mount if required. Smaller antenna will mount onto 51mm to 114mm pole mounts. The antenna mount is manufactured galvanized steel with azimuth and elevation adjustments.

Technical Specifications

Mechanical Specifications

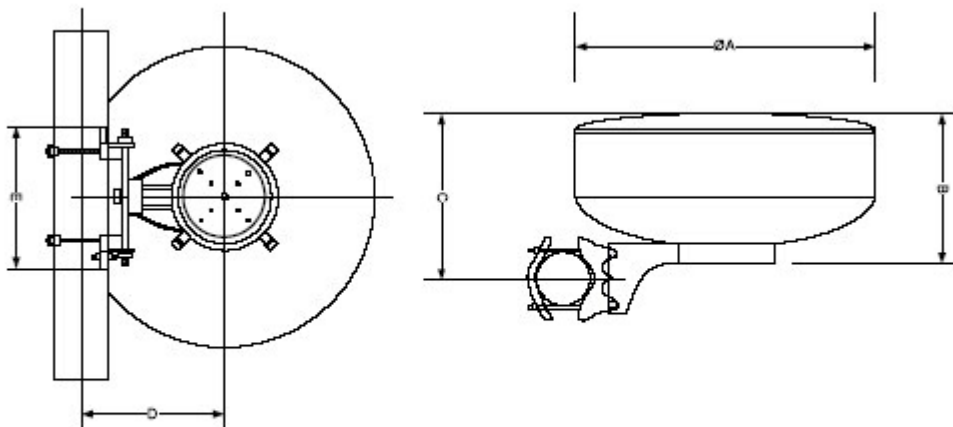
Wind-loading



Antenna Model	Antenna Diameter	Fa Max		Fs Max		MT Max	
		lbs	N	lbs	N	ft/lbs	N/m
HP1	0.3	46	204	13	58	27	36
HP2	0.6	202	899	100	445	194	263
HP3	0.9	403	1792	200	890	344	466
HP4	1.2	737	3278	365	1623	784	1063
HP6	1.8	1680	7473	832	3700	2100	2847
HP8	2.4	2773	12334	1422	6325	4400	5965

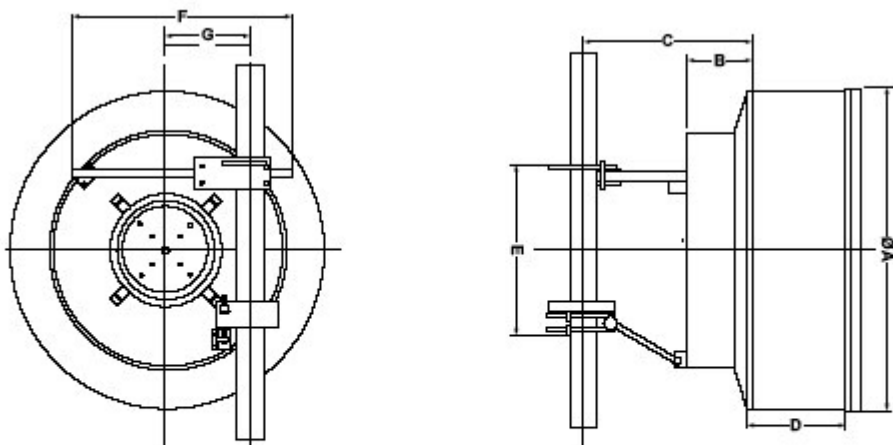
Mounting

HPLP1 (0.3meter) and HP2 (0.6meter)



Antenna Model	A		B		C		D		E	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
HPLP1 (0.3)	13	33	6.1	15.5	7.6	9.3	11.2	28.4	8.9	22.6
HP2 (0.6)	24.5	62.2	16.2	41.4	17.7	44.9	11.2	28.4	8.9	22.6

HP3 (0.9meter) HP4 (1.2meter) and HP6 (1.8meter)



Antenna Model	A		B		C		D		E		F		G	
	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm	inches	cm
HP3 (0.9 meters)	38	91.4	16	40.6	30.2	76.7	9.3	23.6	21	53.3	25.7	65.3	7	17.8
HP4 (1.2 meters)	50	127	20.8	52.8	35	89	12	30.5	21	53.3	25.7	65.3	7	17.8
HP6 (1.8 meters)	70	177.8	27.2	69.1	39.4	100.1	12	30.5	21	53.3	25.7	65.3	7	17.8

Electrical Specifications

Antenna Model	Frequency Range	Diameter (meters)	Mid Band Gain (dB)	Beamwidth (Degrees)	Cross Polar Discrimination (dB)	Front to Back Ratio (dB)	Fine adjustment Azimuth (+/- degrees)
HP2-77	7.125-8.500GHz	0.6	30.8	4.2	30	54	10
HP4-77	7.125-8.500GHz	1.2	36.8	2.4	30	64	10
HP6-77	7.125-8.500GHz	1.8	40.3	1.5	30	67	10
HPLP1-10	10.500-10.700GHz	0.3	27.1	7.1	25	43	10
HP2-10	10.500-10.700GHz	0.6	33.9	3.6	30	54	10
HP4-10	10.500-10.700GHz	1.2	40.1	1.9	30	60	10

HP6-10	10.500-10.700GHz	1.8	43.5	1.3	30	67	10
HP2-13	12.700-13.250GHz	0.6	35.9	2.8	30	62	10
HP3-13	12.700-13.250GHz	0.9	38.7	2.1	30	66	10
HP4-13	12.700-13.250GHz	1.2	41.9	1.4	30	70	10
HP6-13	12.700-13.250GHz	1.8	44.4	0.9	30	70	10
HP2-15	14.250-15.350GHz	0.6	37	2.4	30	64	10
HP3-15	14.250-15.350GHz	0.9	40	1.6	30	67	10
HP4-15	14.250-15.350GHz	1.2	42.5	1.2	30	70	10
HP6-15	14.250-15.350GHz	1.8	45.9	0.8	30	72	10
HPLP1-18	17.700-19.700GHz	0.3	34	3	30	52	10
HP2-18	17.700-19.700GHz	0.6	38.6	2	30	67	10
HP3-18	17.700-19.700GHz	0.8	42	1.3	30	69	10
HP4-18	17.700-19.700GHz	1.2	44.5	1.2	30	72	10
HP6-18	17.700-19.700GHz	1.8	48	0.7	30	74	10
HPLP1-23	21.200-23.600GHz	0.3	35.1	2.7	30	60	10
HP2-23	21.200-23.600GHz	0.6	40.2	1.7	30	68	10
HP3-23	21.200-23.600GHz	0.8	43.7	1.1	30	68	10
HP4-23	21.200-23.600GHz	1.2	46.2	0.8	30	72	10
HP6-23	21.200-23.600GHz	1.8	49.2	0.5	30	72	10
HPLP1-26	24.250-26.500GHz	0.3	36.1	2.5	30	62	10
HP2-26	24.250-26.500GHz	0.6	41.1	1.4	30	69	10
HP3-26	24.250-26.500GHz	0.8	44.6	1	30	72	10
HP4-26	24.250-26.500GHz	1.2	46.9	0.7	30	74	10
HPLP1-38	37.000-40.000GHz	0.3	39.3	1.7	30	60	10
HP2-38	37.000-40.000GHz	0.6	44.3	1	30	72	10

Compliance

All Radio Waves Antennas are compliant to ETSI specifications with the Class variable depending on the Antenna. The Table below shows the compliance of all antennas.

There is also limited FCC compliance, although RPE curves are available for comparison to the FCC regulation

For complete RPE curve availability visit the Radio Waves Web site.

Antenna Model	FCC Compliance	ETSI Compliance
HP2-77 HP4-77 HP6-77		ETS 300833 R1 C2 ETS 300833 R1 C2 ETS 300833 R1 C3
HPLP1-10 HP2-10 HP4-10 HP6-10	Part 101 Cat. A Part 101 Cat. A Part 101 Cat. A Part 101 Cat. A	ETS 300833 R1 C2 ETS 300833 R1 C2 ETS 300833 R1 C2 ETS 300833 R1 C2
HP2-13 HP3-13 HP4-13 HP6-13	Part 101 Cat. A Part 101 Cat. A	ETS 300833 R1 C2 ETS 300833 R1 C2 ETS 300833 R1 C2 ETS 300833 R1 C3
HP2-15 HP3-15 HP4-15 HP6-15		ETS 300833 R2 C2 ETS 300833 R2 C2 ETS 300833 R2 C2 ETS 300833 R2 C2

Antenna	FCC	ETSI
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Model	Compliance	Compliance
HPLP1-18 HP2-18 HP3-18 HP4-18 HP6-18	Part 101 Cat. A	ETS 300833 R2 C3 ETS 300833 R2 C3 ETS 300833 R2 C3 ETS 300833 R2 C3 ETS 300833 R2 C2
HPLP1-23 HP2-23 HP3-23 HP4-23 HP6-23	Part 101 Cat. A	ETS 300833 R3 C3 ETS 300833 R3 C3 ETS 300833 R3 C3 ETS 300833 R3 C3 ETS 300833 R3 C2
HPLP1-26 HP2-26 HP3-26 HP4-26		ETS 300833 R4 C2 ETS 300833 R4 C2 ETS 300833 R4 C2 ETS 300833 R4 C2
HPLP1-38 HP2-38	Part 101 Cat. A	ETS 300833 R5 C3 ETS 300833 R5 C3

Packaging Weights and Dimensions

Antenna Model	Antenna Diameter	Package Type	Net Weight		Gross Weight		Dimensions L x W x H	
			lbs	kg	lbs	kg	Inches	cm
HPLP1	0.3	Wood Crate	17	7.7	21	9.5	18 x 18 x 20	46 x 46 x 51
HP2	0.6	Cardboard	27	12.3	35	15.8	28 x 28 x 24	71 x 71 x 61
HP3	0.9	Cardboard	50	22.5	80	36	47 x 27 x 47	119 x 69 x 119
HP4	1.2	Wood Crate	85	38.3	205	92.3	59 x 28 x 60	150 x 71 x 152
HP6	1.8	Wood Crate	120	54	320	144	77 x 34 x 80	196 x 86 x 203

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http://digital-microwave-radio.at-communication.com/en/at/digital_microwave_radio_8800_ant.html