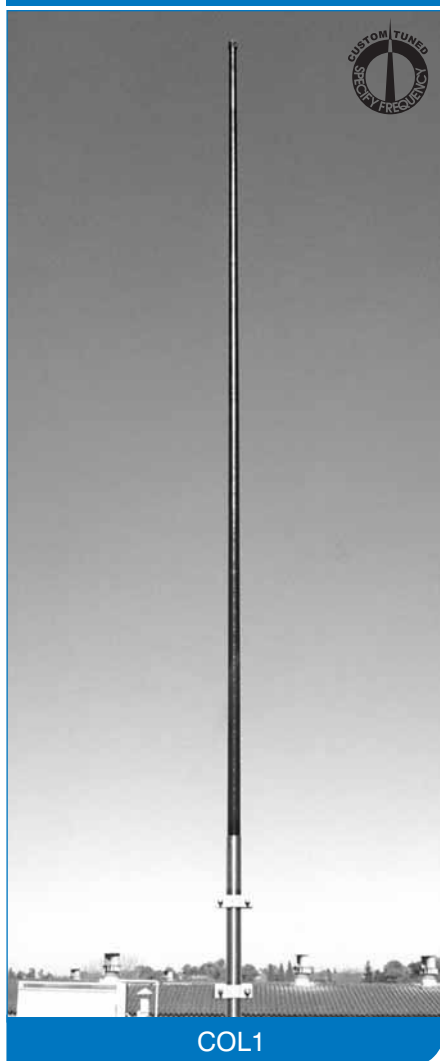


VHF Vertical Collinear Antennas

66-88 MHz

COL16
COL1
COL34-T1



The 66-88 MHz COL range is a series of "cut to frequency" 3dBd gain vertical collinears. The range includes models suitable for simplex, duplex and heavy duty applications. They all include internal DC grounding for lightning protection and the reduction of static noise. Drainage vents at the base allow the antennas to 'breathe' and thus prevent condensation build up.

COL16

The COL16 is specifically designed to cater for transmit to receive separations of up to 2 MHz. The antenna is a series fed collinear which is housed in a heavy duty tapered fiberglass radome, fitted with a alodined aluminum mounting tube. The COL16 (and the electrically identical COL1) have been specifically designed to maintain stable vertical radiation pattern characteristics at the extremities of the tuned bandwidth. This ensures reciprocity of transmit and receive signal characteristics.

COL1

The COL1 is an electrically identical internal design to the COL16 with ruggedized construction, designed for use in the most extreme climatic conditions. The radome which houses the active elements of the COL1 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. The antenna is fitted with a large, 2.4" diameter alodined aluminum mounting tube.

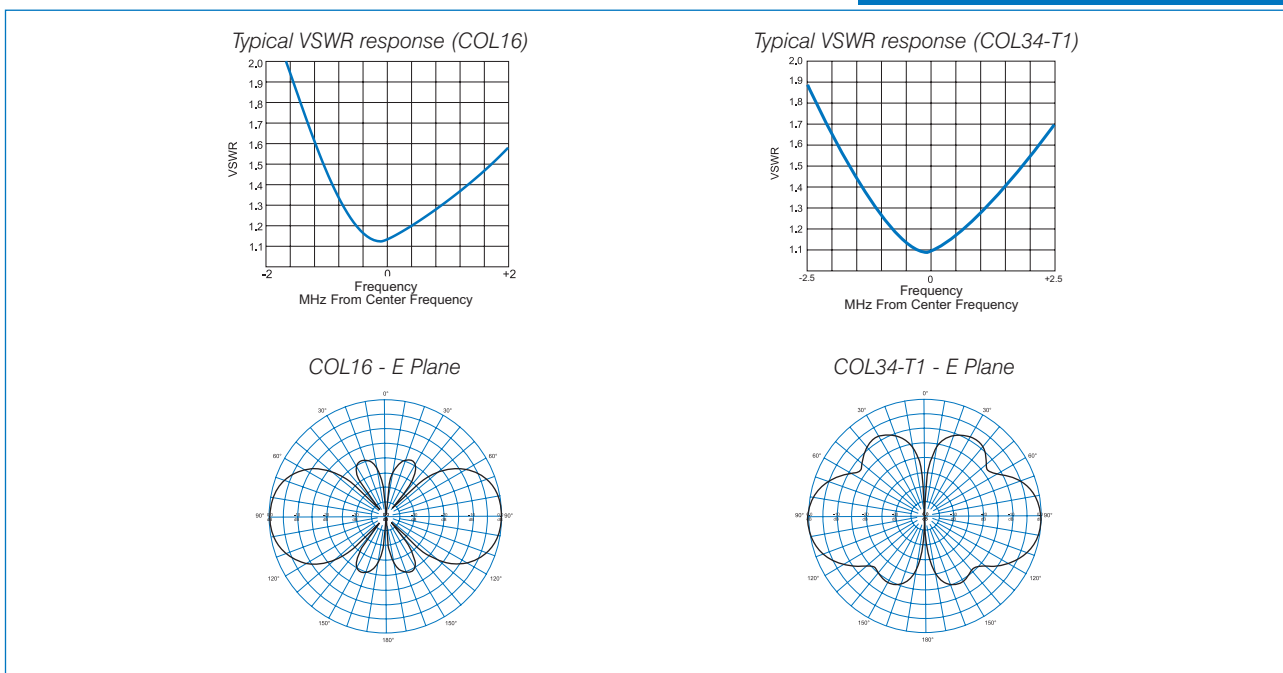
COL34-T1

The COL34 is a two piece antenna designed for applications where the overall length of collinears for this band create transportation/ logistic issues. The antenna employs a machined brass coupling to ensure long term integrity over the service life of the antenna.

VHF Vertical Collinear Antennas

66-88 MHz

COL16
COL1
COL34-T1



Electrical

Model Number	COL16	COL1	COL34-T1
Nominal Gain <i>dBi</i> (d <i>Bd</i>)		5 (3)	4 (2)
Frequency <i>MHz</i>	67 - 88	70 - 88	66 - 88
Tuned Bandwidth		3.0%	3.7%
VSWR (Return Loss)		<1.5 :1 (14dB)	
Nominal Impedance Ω		50	
Vertical Beamwidth		36°	40°
Horizontal Beamwidth		Omni +/- 0.5dB	
Input Power <i>W</i>		200	100

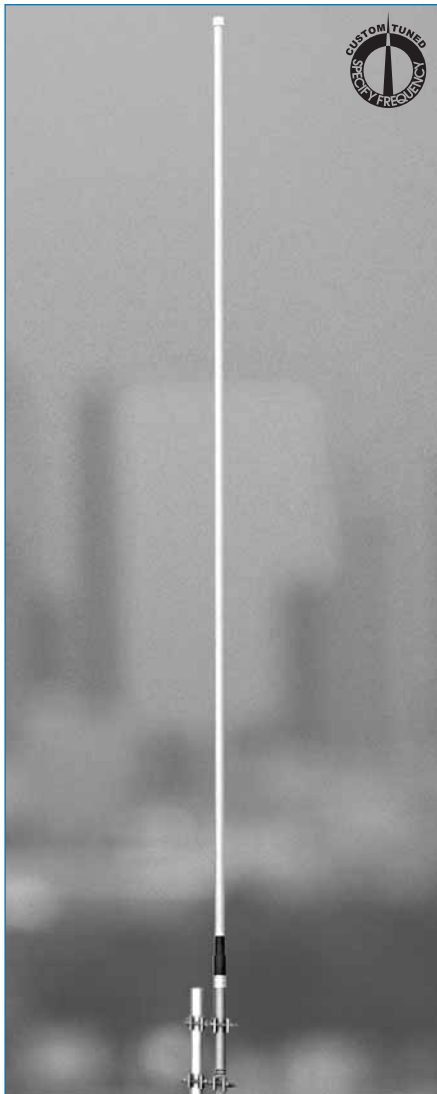
Mechanical

Model Number	COL16	COL1	COL34-T1	
Construction	Alodined aluminum elements with white fiberglass radome	Alodined aluminum elements with ruggedized black fiberglass radome	Two part antenna joins with brass ferrules. White fiberglass radome	
Length <i>inches</i>	232	228	205	
Weight <i>lbs</i>	9.9	17.6	8.8	
Termination	N female bulkhead		17.7" of RG213 with N female	
Mounting Area	20" x 1.7" diam. alodined aluminum	29.5" x 2.4" diam. alodined aluminum	26.4" x 1.5" diam. stainless steel	
Suggested Clamps	2 x UC1			
Projected Area <i>ft</i> ²	No ice	2.12	2.95	1.54
	With ice	4.05	4.80	3.03
Lateral Thrust @ 100mph <i>lbs</i>	53	73	38	
Wind Gust Rating <i>mph</i>	132	149	102	
Torque @100 mph <i>ft-lbs</i>	434	525	247	

VHF Vertical Collinear Antennas

88-148 MHz

COL22
COL28
COL29



COL28

A series of "cut to frequency" 3 dBd gain vertical collinears. The range includes antennas suitable for simplex, duplex and heavy duty applications. These antennas are all rated at 200 watt input power. They are DC grounded to provide maximum resistance to lightning and reduction of precipitation static noise.

COL22

This antenna is suited to single frequency applications in the 88-115 MHz band. The center fed two-element design eliminates distortion of the radiation pattern and ensures a vertical pattern free of beamtilt. The radiating elements are of welded aluminum construction which minimize generation of intermodulation and spurious products. The radiating elements are enclosed in a tapered fiberglass radome which is fitted to a 1.6" diameter alodined aluminum mounting tube. The antenna is terminated with a fixed N-type female connector which is easily accessible for sealing.

COL28

This is a broadband duplex antenna for the 115-148 MHz band specifically designed to cater for transmit to receive separations of up to 4.6 MHz. The antenna is a series fed collinear which is housed in a heavy duty tapered fiberglass radome, fitted to an alodined aluminum mounting tube. The COL28 (and the electrically identical COL29) have been specifically designed to maintain stable vertical radiation pattern characteristics at the extremities of the spot tuned bandwidth.

COL29

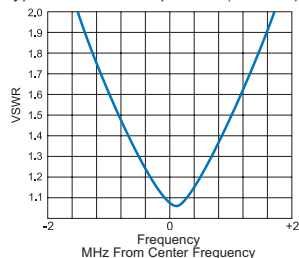
The COL29 is electrically identical to the COL28 antenna and may be used in duplex or simplex applications in the 115-148 MHz band. The COL29 is a ruggedized antenna, designed for use in the most extreme climatic conditions. The radome which houses the active elements of the COL29 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A 2.4" aluminum mounting tube supports the radome, the alodine finish providing a conductive surface to ensure effective earthing of the antenna when mounted.

VHF Vertical Collinear Antennas

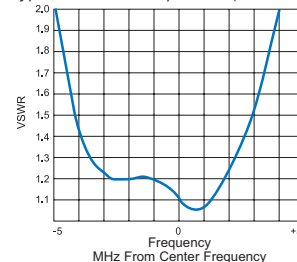
88-148 MHz

COL22
COL28
COL29

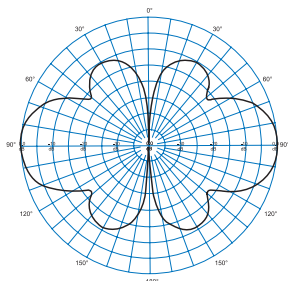
Typical VSWR response (COL22)



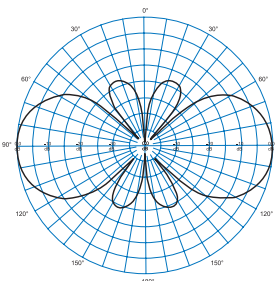
Typical VSWR response (COL28)



COL22 - E Plane



COL28 - E Plane



Electrical

Model Number	COL22	COL28	COL29
Nominal Gain <i>dBi</i> (dBd)	5 (3)		
Frequency <i>MHz</i>	88 - 115	115 - 148	
Tuned Bandwidth	1.0%	4.0%	
VSWR (Return Loss)	<1.5 :1 (14dB)		
Nominal Impedance Ω	50		
Vertical Beamwidth	32°	38°	
Horizontal Beamwidth	Omni +/- 0.5dB		
Input Power <i>W</i>	200		

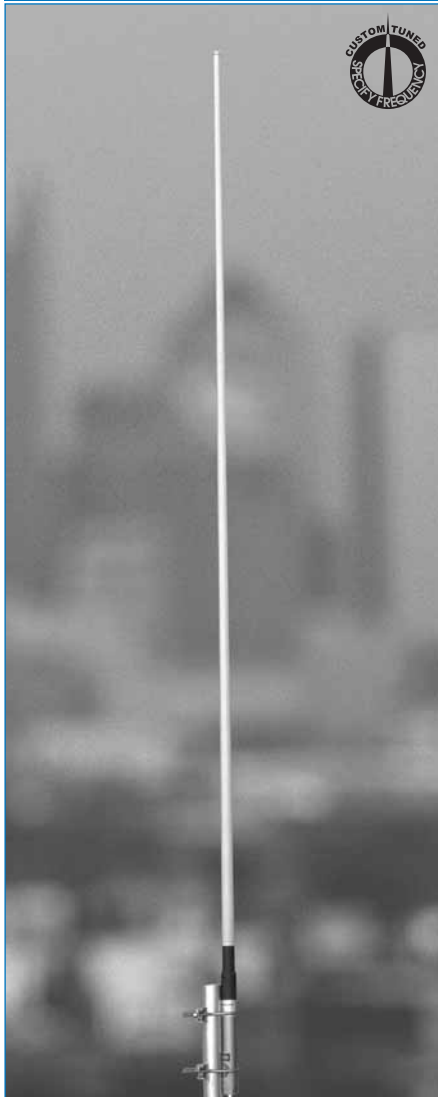
Mechanical

Model Number	COL22	COL28	COL29	
Construction	Alodined aluminum elements with white fiberglass radome		Alodined aluminum elements with ruggedized black fiberglass radome	
Length <i>inches</i>	189	150		
Weight <i>lbs</i>	8.8	9.3	11.0	
Termination	N female bulkhead			
Mounting Area	20" x 1.6" diam. alodined aluminum	20" x 1.7" diam. alodined aluminum	20" x 2.4" diam. alodined aluminum	
Suggested Clamps	2 x UC1			
Projected Area <i>ft</i> ²	No ice	1.60	1.65	2.05
	With ice	3.13	2.85	3.07
Lateral Thrust @ 100mph <i>lbs</i>	40	41	51	
Wind Gust Rating <i>mph</i>	102	132	149	
Torque @100 mph <i>ft-lbs</i>	249	192	240	

VHF Vertical Collinear Antennas

144-175 MHz

COL15
COL17
COL3
COL35



COL15

The 144-175 MHz COL range is a series of "cut to frequency" 3dBd gain vertical collinears. The range includes antennas suitable for simplex, duplex and rugged applications. All of the antennas include internal DC grounding for lightning protection and the reduction of static noise. Drainage vents at the base allow the antennas to 'breathe' and thus prevent condensation build up. The alodine finish of the aluminum mounting tube provides a conductive surface which ensures effective earthing when mounted.

COL 15

The COL15 is a center fed two-element design which eliminates distortion of the radiation pattern and ensures a true omnidirectional horizontal pattern. The radiating elements are constructed from welded alodined aluminum to minimize generation of intermodulation and spurious products. The radiating elements are enclosed in a tapered fiberglass radome which is fitted to an alodined aluminum mounting tube. This lightweight antenna has minimal wind loading and is ideal for mounting on moderate support structures.

COL17

The COL17 is suited for broadband and duplex applications designed to cater for transmit to receive separations of up to 5.0 MHz. The antenna is a series fed collinear which is housed in a heavy duty tapered fiberglass radome, fitted to a ruggedized alodined aluminum mounting tube. The COL17 (and the electrically identical COL3) have been specifically designed to maintain stable vertical radiation pattern characteristics at the extremities of the tuned bandwidth, ensuring reciprocity of transmit and receive signal.

COL3

The COL3 is electrically identical to the COL17 antenna. The COL3 is a ruggedized antenna, designed for use in the most extreme climatic conditions. The radome which houses the active elements of the COL3 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A large alodined aluminum mounting tube supports the radome.

COL35

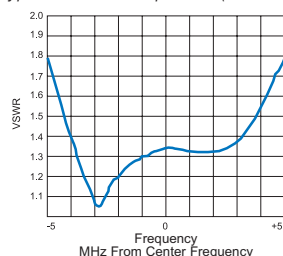
The COL35 is a high gain omnidirectional collinear antenna specifically designed for the most extreme conditions. It incorporates sleeved broadband dipole elements enclosed with a ruggedized, heavy walled fiberglass radome. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A heavy duty hot dip galvanized steel mounting tube supports the radome.

VHF Vertical Collinear Antennas

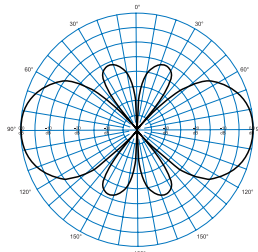
144-175 MHz

COL15
COL17
COL3
COL35

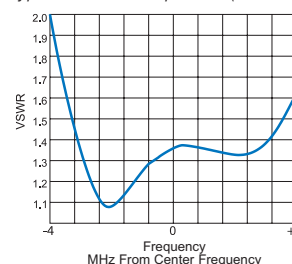
Typical VSWR response (COL35)



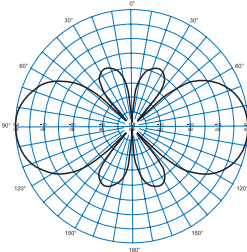
COL35 - E Plane



Typical VSWR response (COL17)



COL17 - E Plane



Electrical

Model Number	COL15	COL17	COL3	COL35
Nominal Gain dBi (dBd)	5 (3)			
Frequency MHz	144 - 175			148 - 175
Tuned Bandwidth	1.0%	4.0%		
VSWR (Return Loss)	<1.5 :1 (14dB)			
Nominal Impedance Ω	50			
Vertical Beamwidth	30°	38°		39°
Horizontal Beamwidth	Omni +/- 0.5dB			
Input Power W	200			250

Mechanical

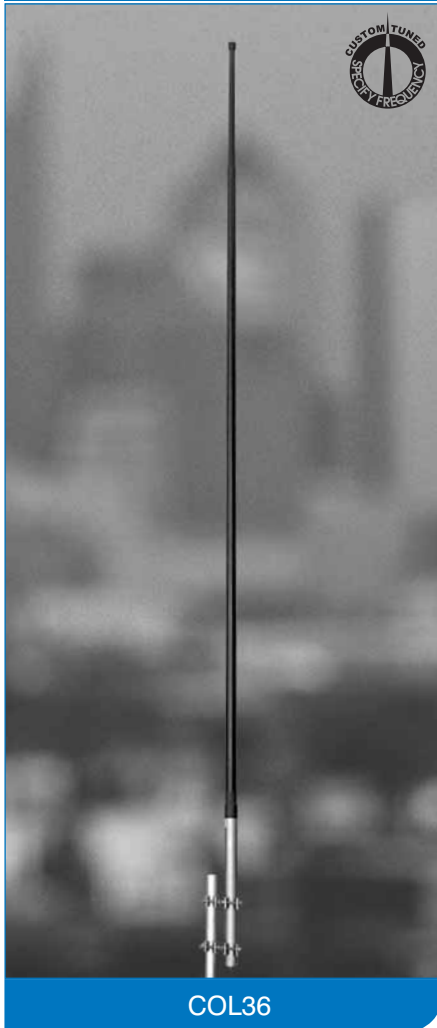
Model Number	COL15	COL17	COL3	COL35
Construction	Alodined aluminum elements with white fiberglass radome		Alodined aluminum elements with ruggedized black fiberglass radome	Extra heavy duty black fiberglass radome
Length inches	114	118		114
Weight lbs	4.4	7.1	9.3	19.8
Termination	N female bulkhead. For COL17 see note (1)			
Mounting Area	11.8" x 1.7" diam. alodined aluminum	20" x 1.6" diam. alodined aluminum	20" x 2.4" diam. alodined aluminum	14.1" x 2.9" diam. galvanised steel
Suggested Clamps	2 x UC1			
Projected	0.98	1.25	1.73	1.79
Area ft ²	1.93	2.20	2.57	2.54
Lateral Thrust @ 100mph lbs	24	31	43	44
Wind Gust Rating mph	>150			
Torque @100 mph ft-lbs	95	108	148	159

(1) COL17 is available with 39" of RG213 cable tail with N female connector using model no. trailer - T1

VHF Vertical Collinear Antennas

144-175 MHz

COL4
COL18
COL24
COL36



COL36

This range of 'custom tuned' collinear antennas all exhibit very similar radiation patterns. The antennas are suitable for single frequency or duplex applications and vary only in their construction.

COL4

The COL4 is a broadband antenna manufactured to suit high power operation. The collinear is specifically designed to cater for transmit to receive separations of up to 6.0 MHz. The antenna is a series fed collinear which is housed in a heavy duty tapered fiberglass radome, fitted to a rugged aluminum mounting tube. The COL4 (and the electrically identical COL18 and COL24) have been specifically designed to maintain stable vertical radiation pattern characteristics at the extremities of the operating bandwidth. This ensures reciprocity of transmit and receive signal characteristics.

COL18

The COL18 is electrically identical to the COL4 antenna. The COL18 is a ruggedized antenna, designed for use in the most extreme climatic conditions. The radome which houses the active elements of the COL18 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A substantial diameter alodine aluminum mounting tube supports the radome.

COL24

The COL24 is electrically identical to the COL4 but features a stainless steel mounting tube and upgraded construction for superior resistance to weathering, particularly in corrosive environments.

COL36

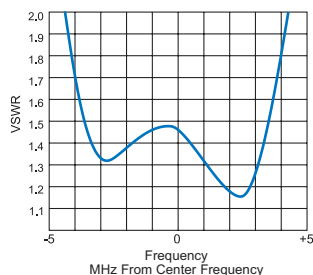
The COL36 is a high gain omnidirectional collinear antenna specifically designed for the most extreme conditions. It incorporates sleeved broadband dipole elements enclosed with a ruggedized, heavy walled fiberglass radome. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A heavy duty hot dip galvanized steel mounting tube supports the radome.

VHF Vertical Collinear Antennas

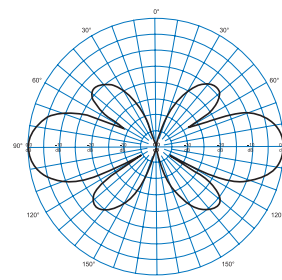
144-175 MHz

COL4
COL18
COL24
COL36

Typical VSWR response (COL4)



COL4 - E Plane



Electrical

Model Number	COL4	COL24	COL18	COL36
Nominal Gain <i>dBi</i> (dBd)	6.6 (4.5)			
Frequency <i>MHz</i>	144 - 175			148 - 175
Tuned Bandwidth	4.0%			
VSWR (Return Loss)	<1.5 :1 (14dB)			
Nominal Impedance Ω	50			
Vertical Beamwidth	20°			
Horizontal Beamwidth	Omni +/- 0.5dB			
Input Power <i>W</i>	200			250
Passive IM 3rd order <i>dBc</i>	-125			

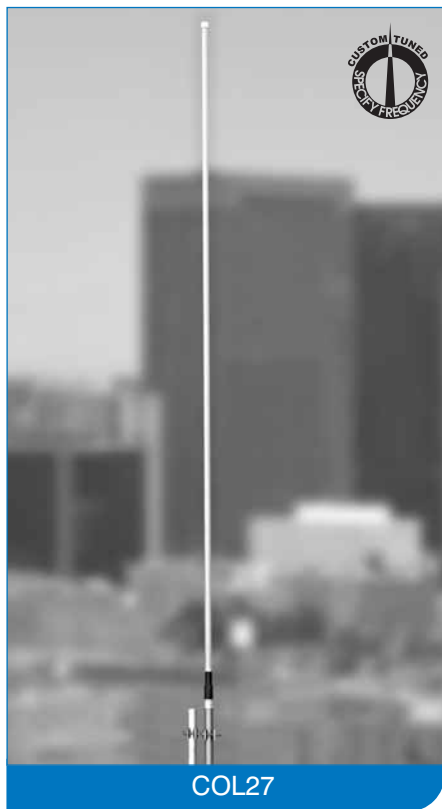
Mechanical

Model Number	COL4	COL24	COL18	COL36	
Construction	Alodined aluminum elements, white fiberglass radome		Alodined aluminum elements with ruggedized black fiberglass radome	Sleeved dipole elements with extra heavy duty black fiberglass radome	
Length <i>inches</i>	173		185	181	
Weight <i>lbs</i>	9.9		13.2	26.5	
Termination	N female bulkhead				
Mounting Area	20" x 1.7" diam. alodined aluminum	20" x 1.9" diam. stainless steel	29.5" x 2.4" diam. alodined aluminum	20" x 2.9" diam. galvanised steel	
Suggested Clamps	2 x UC1				
Projected Area <i>ft²</i>	No ice	1.83	1.84	2.59	2.64
	With ice	3.20	3.22	3.98	3.82
Lateral Thrust @ 100mph <i>lbs</i>	45	46	64	65	
Wind Gust Rating <i>mph</i>	> 150				
Torque @100 mph <i>ft-lbs</i>	262	264	345	395	

VHF Vertical Collinear Antenna

175-310 MHz

COL27

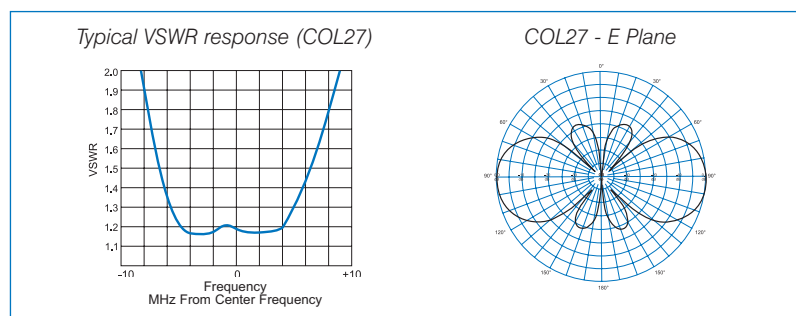


The COL27 is a "cut to frequency" 3 dBd gain broadband vertical collinear suitable for single frequency or duplex applications.

This antenna can be used in multiple transmitter or paging applications at 200 watts input. Being relatively broadband, the COL27 caters to bandwidths of 5% of the specified frequency (It is advisable to specify both transmit and receive frequencies when ordering).

The COL27 is a series fed collinear design with the radiating element housed in a heavy duty fiberglass radome, fitted with an alodined aluminum mounting tube.

This antenna has been specifically designed to maintain stable vertical radiation pattern characteristics at the extremities of the tuned bandwidth. This ensures reciprocity of transmit and receive signal characteristics. The lightweight design delivers minimum wind loading and is ideal for mounting on moderate support structures.



Electrical

Model Number	COL27
Nominal Gain dBi (dBd)	5 (3)
Frequency MHz	175 - 310
Tuned Bandwidth	5.0%
VSWR (Return Loss)	<1.5 :1 (14dB)
Nominal Impedance Ω	50
Vertical Beamwidth	38°
Horizontal Beamwidth	Omni +/- 0.5dB
Input Power W	200
Passive IM 3rd order dBc	-125

Mechanical

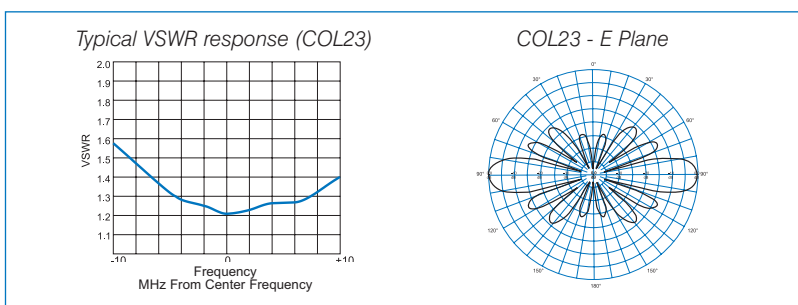
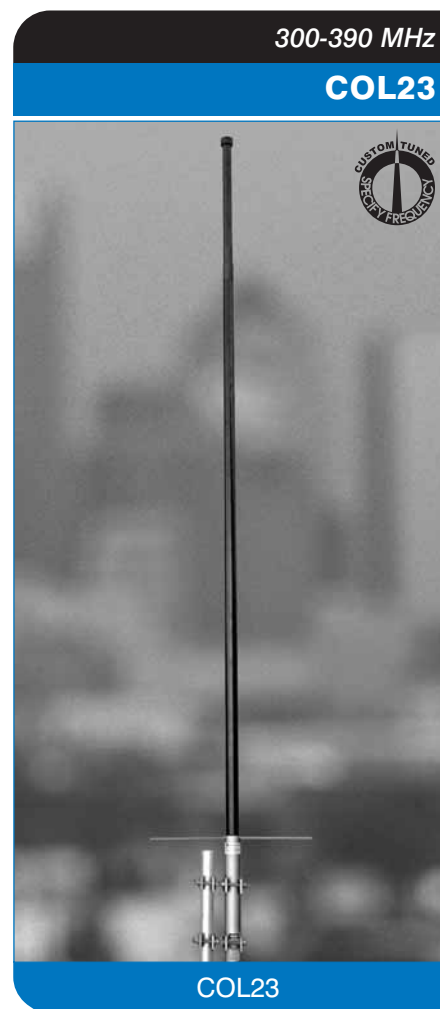
Model Number	COL27	
Construction	Alodined aluminum elements with white fiberglass radome	
Length inches	106	
Weight lbs	7.7	
Termination	N female bulkhead	
Mounting Area	20" x 1.6" diam. alodined aluminum	
Suggested Clamps	2 x UC1	
Projected Area ft ²	No ice	1.11
	With ice	1.93
Lateral Thrust @ 100mph lbs	27	
Wind Gust Rating mph	>150	
Torque @100 mph ft-lbs	81	

UHF Vertical Collinear Antenna

The COL23 is a high gain omnidirectional collinear antenna suitable for simplex, duplex or multiple transmit/receive applications. The combination of 6 dBd gain and a nominal 2° of negative beamtilt results in a vertical radiation pattern that is ideal for almost all coverage requirements, both local and wide area.

The COL23 is a series fed collinear design which is custom tuned to user specified frequencies. The radiating element is constructed of alodined aluminum, enclosed in a tapered ruggedized fiberglass radome, which is fitted to a alodined aluminum mounting tube. The mounting tube is fitted with three radials to aid in decoupling and enhance pattern control.

The antenna is internally DC grounded aiding in lightning protection and the reduction of static noise. Drainage vents at the base allow the antenna to "breathe," and thus prevent condensation build up.



Electrical

	COL23	COL23-T1
Model Number	COL23	COL23-T1
Nominal Gain <i>dBi</i> (<i>dBd</i>)		8 (6)
Frequency <i>MHz</i>		300 - 390
Tuned Bandwidth		4.0%
VSWR (Return Loss)		<1.5 :1 (14dB)
Nominal Impedance Ω		50
Vertical Beamwidth		14°
Horizontal Beamwidth		Omni +/- 0.5dB
Input Power <i>W</i>		200

Mechanical

	COL23	COL23-T1
Model Number	COL23	COL23-T1
Construction	Alodined aluminum elements with two piece black ruggedized fiberglass radome with radials	
Length <i>inches</i>	146	
Weight <i>lbs</i>	73	
Termination	N Female bulkhead	39" RG213 cable tail with N Female
Mounting Area	18.4" x 2.4" diam. alodined aluminum	20" x 2.4" diam. alodined aluminum
Suggested Clamps	2 x UC1	
Projected Area <i>ft</i> ²	No ice	1.99
	With ice	3.00
Lateral Thrust @ 100mph <i>lbs</i>	49	
Wind Gust Rating <i>mph</i>	>150	
Torque @100 mph <i>ft-lbs</i>	229	

UHF Vertical (Tetra) Collinear Antennas

380-400 MHz

COL40 Series

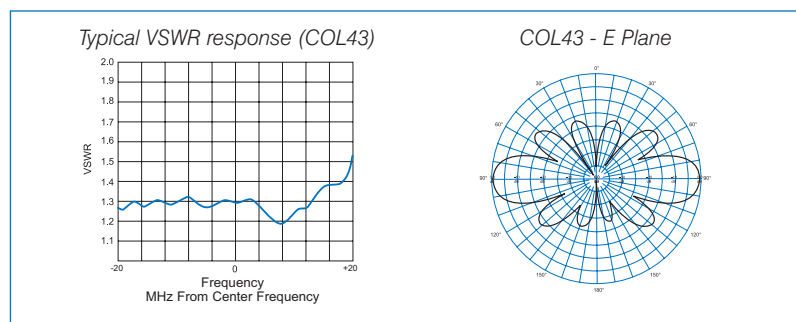


COL43

This range of collinear antennas have been specifically designed for Tetra UHF applications requiring high performance, broad bandwidth and exceptional PIM specifications.

Utilising RFI's patented meander collinear technology, the unique design of this radiating element offers pattern stability across the band. This antenna is extremely robust in design with a single PCB based radiating element housed in a parallel fiberglass radome fitted to an alodined aluminum mounting tube.

- Broad Bandwidth
- Tightly controlled radiation patterns for optimum coverage
- Patented PCB design for optimum RF pattern stability
- Full band coverage
- Industry leading PIM ratings (-150dBc) providing low IM and low noise characteristics for optimum performance



Electrical

Model Number	COL42	COL43
Nominal Gain dBi (dBd)	5 (3)	8 (6)
Frequency MHz	380 - 400	
Tuned Bandwidth	Entire band	
VSWR (Return Loss)	<1.5:1 (14dB)	
Nominal Impedance Ω	50	
Vertical Beamwidth	21°	13°
Horizontal Beamwidth	Omni +/- 0.5dB	
Input Power W	250	
Passive IM 3rd order dBc	-150	

Mechanical

Model Number	COL42	COL43
Construction	Flexible PCB radiator with white fiberglass radome	
Length inches	91	138
Weight lbs	7.1	10.1
Termination	N female bulkhead	
Mounting Area	20" x 2.0" diam. alodined aluminum	
Suggested Clamps	2 x UC1	
Projected Area ft ²	No ice: 1.16 With ice: 1.72	1.77 2.91
Lateral Thrust @ 100mph lbs	29	44
Wind Gust Rating mph	>150	
Torque @100 mph ft-lbs	66	187

USA Patent: 6909403

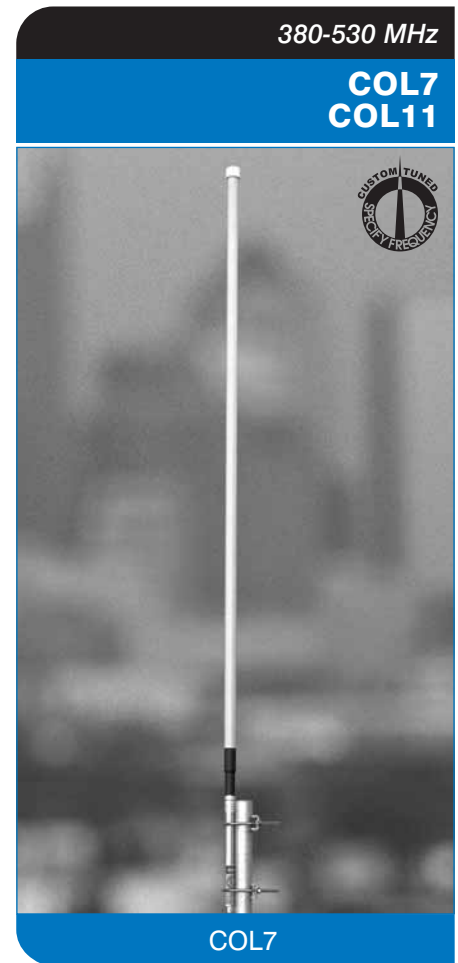
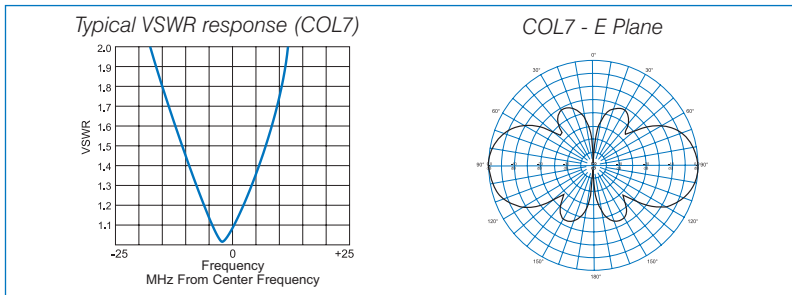
Patent App. No.: Australia 2003255049 / Europe 03 023406.6 / China 200310100548.5 / India 844/CHE/2003

UHF Vertical Collinear Antennas

These are 3dBd gain omnidirectional collinear antennas characterised by broad operating bandwidths making them suitable for single frequency or duplex applications.

The COL7 is a lightweight collinear design with minimal wind loading, making it ideal for mounting on moderate support structures. The radiating elements are constructed from alodined aluminum and are arranged as a series fed array. The internal elements are enclosed in a fiberglass radome which is fitted to a aluminum mounting tube.

The COL11 is electrically identical to the COL7 antenna (although it does feature an up-rated stub design for additional power handling capabilities). The ruggedized radome which houses the active elements of the COL11 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A large, 2.4" diameter alodined aluminum mounting tube supports the radome.



Electrical

Model Number	COL7	COL11
Nominal Gain <i>dBi</i> (dBd)	5 (3)	
Frequency <i>MHz</i>	380 - 530	390 - 520
Tuned Bandwidth	4.0%	
VSWR (Return Loss)	<1.5 :1 (14dB)	
Nominal Impedance Ω	50	
Vertical Beamwidth	30°	
Horizontal Beamwidth	Omni +/- 0.5dB	
Input Power <i>W</i>	150	200
Passive IM 3rd order <i>dBc</i>	-130	

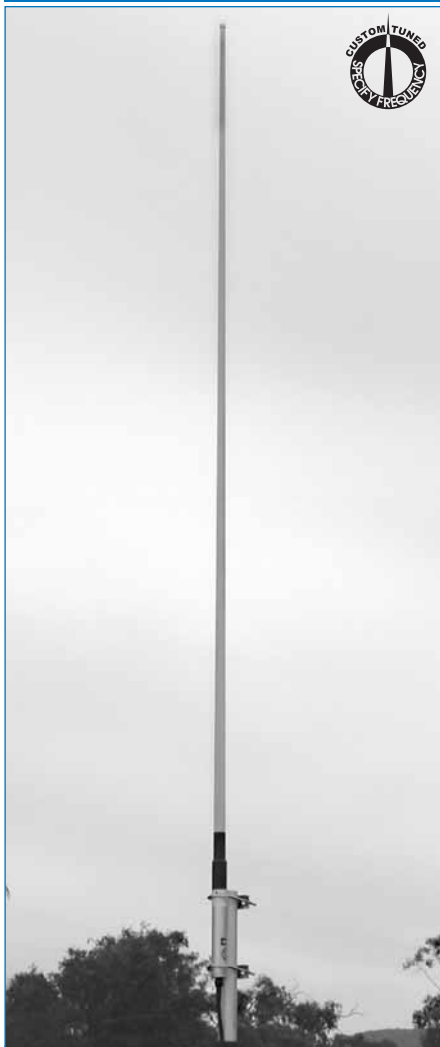
Mechanical

Model Number	COL7	COL11
Construction	Alodined aluminum elements with white fiberglass radome	Alodined aluminum elements with black ruggedized fiberglass radome
Length <i>inches</i>	87	
Weight <i>lbs</i>	1.1	2.6
Termination	N female bulkhead	
Mounting Area	7.9" x 1.0" diam. alodined aluminum	20" x 2.4" diam. alodined aluminum
Suggested Clamps	2 x UB1	
Projected Area <i>ft²</i>	No ice	0.72
	With ice	1.22
Lateral Thrust @ 100mph <i>lbs</i>	18	30
Wind Gust Rating <i>mph</i>	>150	
Torque @100 mph <i>ft-lbs</i>	46	63

UHF Vertical Collinear Antennas

380-530 MHz

COL8
COL12
COL19



COL8

A range of high gain omnidirectional collinear antennas, the COL8, COL12 and COL19 are electrically identical and differ only in their physical construction. An operating bandwidth of 10 MHz is provided within VSWR limits of less than 1.5:1, making them suitable for single and multi frequency applications. The antennas include internal DC grounding for lightning protection and the reduction of static noise.

COL8

The COL8 is our most popular and widely used UHF base station antenna. The COL8 is a series fed collinear which is custom tuned to user specified frequencies. By design, each antenna is constructed to exhibit a beam tilt of -2° at the highest of the operating frequencies specified. This negative beam tilt gradually increases with lower frequencies within the defined operational bandwidth. The result is an antenna which provides excellent null fill coverage and optimized range for antenna sites where average height above ground level is not greater than 6560 feet.

COL12

The COL12 is electrically identical to the COL8 however its ruggedized design makes it ideal for use in the most extreme climatic conditions. The radome which houses the active elements of the COL12 was originally designed to serve as the mast of recreational sail boards and is immensely strong. The radome is colored black to maximize solar heat retention and this has been shown to aid significantly in ice shedding. A large, 2.4" dia.x 20" aluminum mounting tube supports the radome.

COL19

The COL19 is also electrically identical to the COL8 but features a super heavy duty radome which is double the thickness (0.18") of the COL12 to withstand extremely severe conditions. The COL19 also features a heavy duty galvanized mounting tube, measuring 2.9" in diameter and 0.28" thick to support the radome. It is recommended in areas where extreme icing is anticipated.

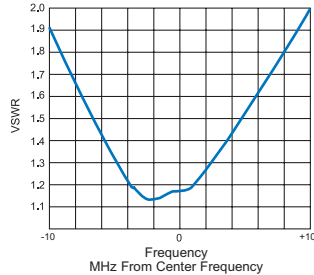
- 6dBd gain omnidirectional pattern
- Range of models to cater for varying environments
- The radiating elements are constructed of alodined aluminum with all internal metal junctions welded to prevent the generation of intermodulation products and spurious emissions

UHF Vertical Collinear Antennas

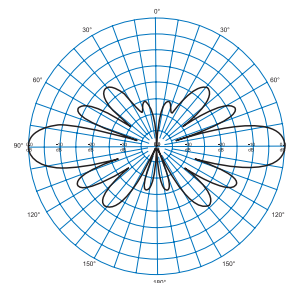
380-530 MHz

**COL8
COL12
COL19**

Typical VSWR response (COL12)



COL12 - E Plane



Electrical

Model Number	COL8	COL12	COL19
Nominal Gain <i>dBi</i> (dBd)		8 (6)	
Frequency <i>MHz</i>		380 - 530	
Tuned Bandwidth <i>MHz</i>		10	
VSWR (Return Loss)		< 1.5 :1 (14dB)	
Nominal Impedance Ω		50	
Vertical Beamwidth		14°	
Horizontal Beamwidth		Omni +/- 0.5dB	
Input Power <i>W</i>		200	
Passive IM 3rd order <i>dBc</i>		-130	

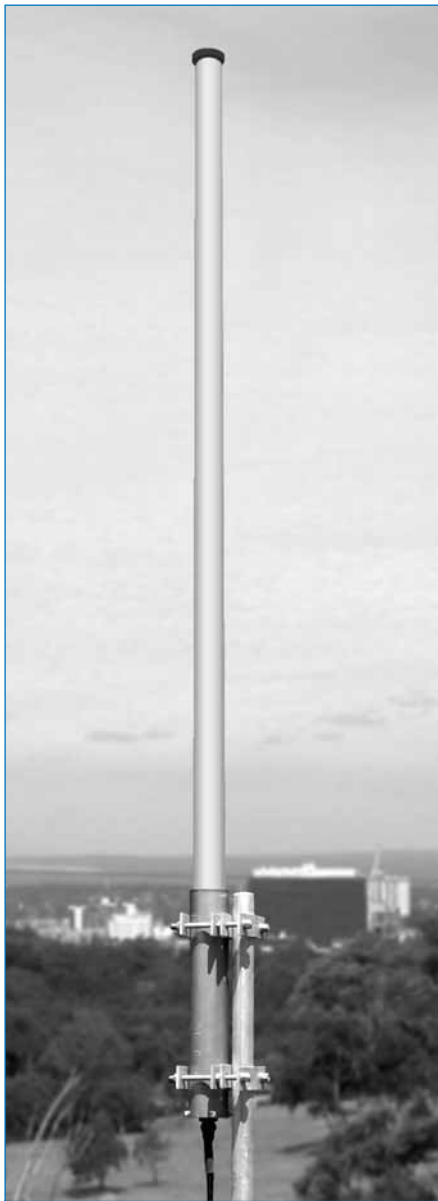
Mechanical

Model Number	COL8	COL12	COL19	
Construction	Alodined aluminum elements with white fiberglass radome	Alodined aluminum elements with black ruggedized fiberglass radome	Alodined aluminum elements with black ultra ruggedized fiberglass radome	
Length <i>inches</i>	122	118	118	
Weight <i>lbs</i>	3.3	6.6	16.5	
Termination		N female bulkhead		
Mounting Area	11.8" x 1.5" diam. alodined aluminum	20" x 2.4" diam. alodined aluminum	29.5" x 2.9" diam alodined aluminum	
Suggested Clamps		2 x UC1		
Projected Area <i>ft²</i>	No ice	0.88	1.75	1.97
	With ice	1.88	2.61	2.68
Lateral Thrust @ 100mph <i>lbs</i>	22	43	49	
Wind Gust Rating <i>mph</i>	131	149	149	
Torque @100 mph <i>ft-lbs</i>	91	151	130	

UHF Corporate Collinear Antenna

380 - 520 MHz

CC380-06
CC450-06



CC450-06

These high gain collinear arrays allow site operators to combine, with complete integrity, a large number of communications services into a single, low profile collinear antenna array.

The true corporate feed of these arrays maintains total pattern integrity over a broad operating bandwidth, similar to that previously available only in exposed dipole configurations. This is now achieved in the preferred form factor of a fully enclosed fiberglass radome.

Like exposed arrays, the corporate collinear is a series of internally harnessed dipole sections but the corporate phasing does more than simply allow the antenna to be stable across the band. Precise control of the placement of the elements ensures phase purity. With every element placed physically and electrically at a theoretically perfect point, gain is maximized and side lobes reduced dramatically.

In a patent pending design approach the individual dipole elements are fabricated entirely of a flexible circuit board. Each dipole element, complete with its impedance matching network, is integrated onto a single PCB ensuring precise circuit and dimensional control, the lowest possible radiation resistance and negligible weight. The dipole elements are fitted, by soldering, directly to the 3/4" diameter solid brass support pipe which contains the inter-element harnesses and is directly connected to the mounting tube and the lightning spike at the peak of the antenna.

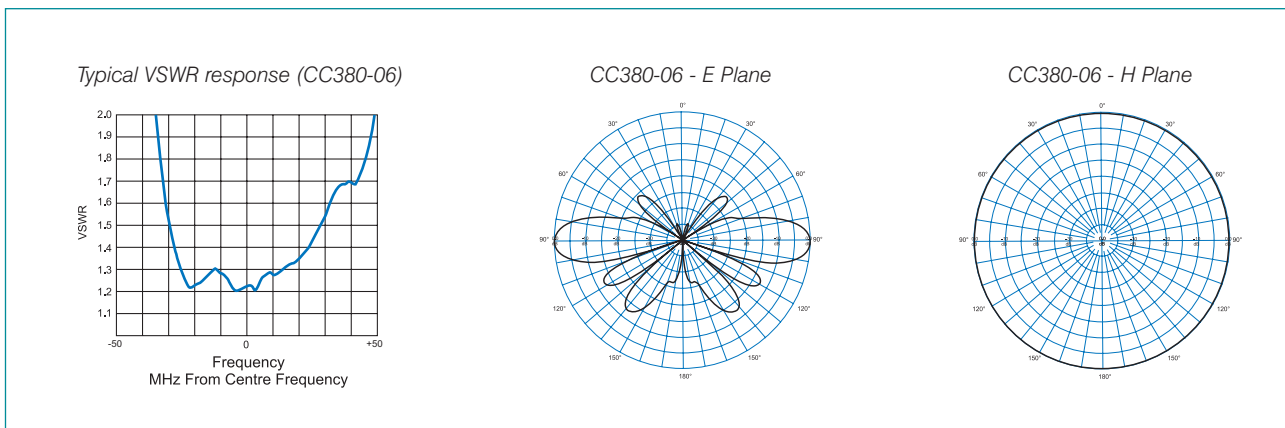
The result of this unique, incredibly strong design is:

- Extraordinary bandwidth characteristics with superior pattern control over an extended band coverage
- Strong vertical pattern beamwidth, with minor lobes >10dB down on primary lobe at all frequencies
- Light weight dipole construction with low centre of gravity reducing tip deflection and sway
- Industry leading PIM specifications maintained over the service life of the antenna
- Attractive, low profile appearance antennas which are an immediate substitute for sites where wind loading or aesthetics make exposed dipole arrays less attractive
- Supremely strong radome and mounting tube construction to ensure low tower loadings even with radial ice
- DIN connectors standard with N type offered
- Sealed PTFE insulated cables in harnessing ensure high power capability

UHF Corporate Collinear Antenna

380 - 520 MHz

CC380-06
CC450-06



Electrical

Model Number	CC380-06
Nominal Gain <i>dBi</i> (<i>dBd</i>)	7 (5)
Frequency <i>MHz</i>	380 - 420
Tuned Bandwidth <i>MHz</i>	Full Band
VSWR (Return Loss)	<1.5 :1 (14dB)
Nominal Impedance Ω	50
Vertical Beamwidth	15°
Horizontal Beamwidth	Omni +/- 0.4dB
Input Power <i>W</i>	500
Passive IM 3rd order <i>dBc</i>	-150

Mechanical

Model Number	CC380-06	
Construction	Composite fiberglass sky blue radome, aluminum mounting tube	
Length <i>inches</i>	122	
Radome diameter <i>inches</i>	3	
Weight <i>lbs</i>	24	
Termination	7/16" DIN female flange mount	
Mounting Area	20" x 3.5" diam. Aluminum	
Projected Area <i>ft</i> ²	No ice	2.7
	With ice	3.3
Lateral Thrust @ 100mph <i>lbs</i>	68	
Wind Gust Rating <i>mph</i>	150	
Torque @100 mph <i>ft-lbs</i>	242	

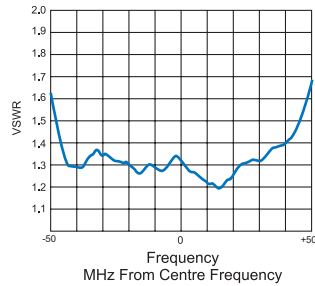
For the CC450-06 (450 - 520MHz) corporate collinear please refer to page 46

UHF Corporate Collinear Antenna

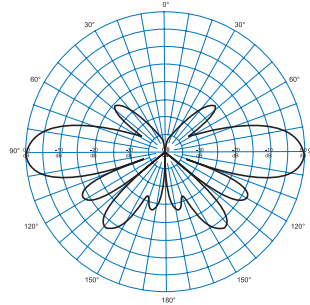
380 - 520 MHz

CC380-06
CC450-06

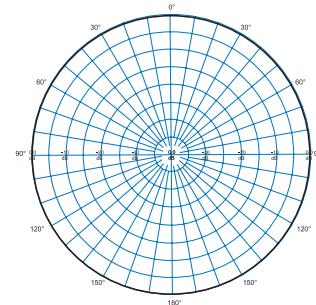
Typical VSWR response (CC450-06)



CC450-06 - E Plane



CC450-06 - H Plane



Electrical

Model Number	CC450-06
Nominal Gain dBi (dBd)	7 (5)
Frequency MHz	450 - 520
Tuned Bandwidth MHz	Entire Band
VSWR (Return Loss)	<1.5 :1 (14dB)
Nominal Impedance Ω	50
Vertical Beamwidth	16°
Horizontal Beamwidth	Omni +/- 0.5dB
Input Power W	500
Passive IM 3rd order dBc	-150

Mechanical

Model Number	CC450-06
Construction	Composite fiberglass sky blue radome, aluminum mounting tube
Length inches	107
Radome diameter inches	3
Weight lbs	22
Termination	7/16" DIN female flange mount
Mounting Area	20" x 3.5" diam. Aluminum
Projected Area ft ²	No ice: 2.3 With ice: 2.8
Lateral Thrust @ 100mph lbs	57
Wind Gust Rating mph	150
Torque @100 mph ft-lbs	166

CDMA/GSM Collinear Antennas

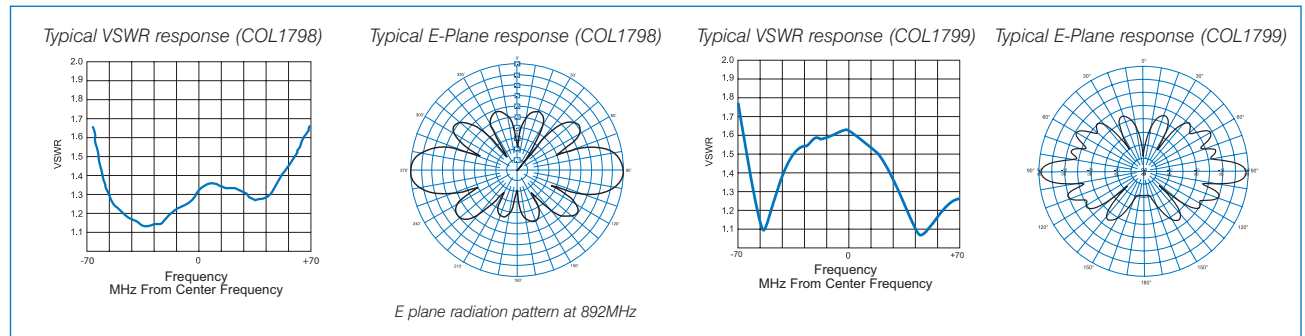
The COL1790 Series are high gain cellular antennas catering for both CDMA and GSM900 bands and ideally suited for use in fringe areas and rural applications.

These antennas are extremely robust in design with a patented PCB designed radiating element housed in a black fiberglass radome fitted to an integral heavy duty electro-polished stainless steel spring.

With an M13 threaded stud mount, these antennas may be installed on a number of mounting brackets and are ideal as fixed base station antennas for wireless local loop applications.

The COL1790 series antennas have been factory terminated to simplify installation.

- CDMA and GSM900 compatible
- High gain ideal for fringe areas and rural applications
- Patented PCB based collinear design offering the ultimate in pattern and gain stability
- Also available in white radome. COL1798-W or COL1799-W



Electrical

Model Number	COL1798	COL1799
Gain dBi	6.5	9
Frequency MHz	824 - 960	
Max Power W	25	
Tuned Bandwidth	Full	
Tuning	Supplied pre-tuned	

Mechanical

Model Number	COL1798	COL1799
Construction	Flexible PCB radiator in high gloss black radome on 0.75" stainless steel mounting tube	
Whip Length inches	36.2	69.7
Mounting	2 x Hose Clamps (supplied)	
Cable and Connector	472" low loss Cellfoil® fitted with FME101 connector. 1 x terminated , 1 x loose	20" low loss Cellfoil® fitted with N series jack

USA Patent: 6909403
 Patent App. No.: Australia 2003255049 / Europe 03 023406.6 / China 200310100548.5 / India 844/CHE/2003

800 MHz Collinear Antennas

806-960 MHz

COL803 Series
COL806 Series
COL809 Series



COL803

The COL800 Series are high gain base station collinear antennas built to the highest specifications. These antennas were engineered to minimize intermodulation and utilize a superior matching technique, integrating the coaxial connector directly into a precision brass feedline section. Better control in the feedline section delivers higher efficiencies and superior bandwidth.

The gain is stable and predictable with well defined major lobes across the entire band. As tilt in vertical collinears varies with frequency, the COL800 patterns are controlled to deliver defined tilt and gain over their rated bandwidths.

The COL800 series are built with white, super thick walled radomes and heavy duty anodized aluminum mounting tubes. Strong power ratings make these collinears well suited to single or combined Tx applications.

The COL800 range includes 3dBd, 6dBd and 9dBd gain versions across the 800MHz band.

- High power handling capability
- Broad bandwidth
- Controlled patterns and consistent gain at band edges
- Available in the following bands

806-870MHz (when ordering use **-89** suffix eg: COL803-89)

820-896MHz (when ordering use **-81** suffix eg: COL803-81)

850-930MHz (when ordering use **-82** suffix eg: COL803-82)

890-960MHz (when ordering use **-94** suffix eg: COL803-94)