

CATALOGUE 21



ANTENNAS



ANYWHERE THE SOLUTION

Company History

SIRA S.r.l. was founded in 1977 and has more than 40 years of proud history in broadcasting and telecommunications RF equipment. Headquartered in Caponago, Italy, the company had developed into a leading manufacturer of broadcast equipment with installations in more than 120 countries. Throughout the years, the SIRA brand has become known for flexibility in engineering solutions, fast delivery and good quality at an attractive price. Since 1992 the company has belonged to the Kathrein group

but operated independently under the SIRA name. Only in 2015 we started to integrate SIRA operations with the Kathrein Broadcast activities. Since 2016 customers are able to buy both brands out of one hand. In 2019 the Broadcast business worldwide was carved out into the Kathrein Broadcast group. The Italian branch of Kathrein Broadcast is now named "SIRA Radio Systems S.r.l." to pick up on the proud heritage of the SIRA brand.

Continuity and proven quality

Our SIRA engineering team is based near Milan, Italy. Since 2018, we have optimized our supply chain with our own centralized manufacturing that is subject to the notoriously rigorous Kathrein quality management system.

With this approach we have been able to maintain the values and virtues SIRA has stood for in the Broadcast market for more than 40 years: The creativity of our solutions combined with attractive economics, reliability and fast delivery.



CATALOGUE OVERVIEW & CONTACT

Unique designs

SIRA includes a full portfolio of UHF, VHF and FM antennas as well as combiners, all designed in Italy. The product line includes unique custom designs as well as proven standard designs, so the product line offers an attractively priced

alternative to customers who are looking for more choices, as well as customized project specific solutions. The SIRA portfolio is therefore complimentary to the traditional Kathrein Broadcast offering.



Please feel free to order our catalogues under the following contact.

Contact

For any question, your familiar contacts in Italy are now supporting you out of **SIRA Radio Systems S.r.l.**

Mail: info@siraradiosystems.com



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FM ANTENNAS

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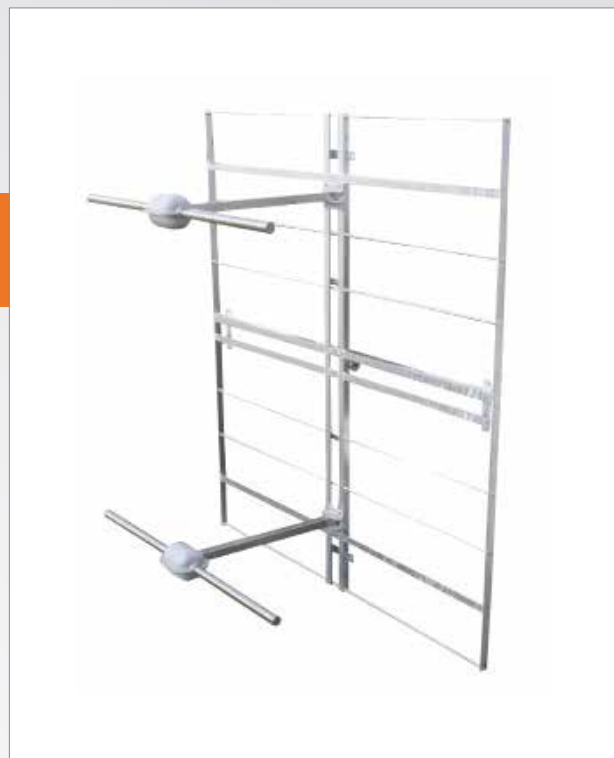


FM-03 (Horizontal polarization)

FM PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 87.5 ÷ 108 MHz
- 7.5 dB gain
- directional pattern
- suitable as a component in various arrays on square towers
- stainless steel dipoles
- suitable also for vertical polarization



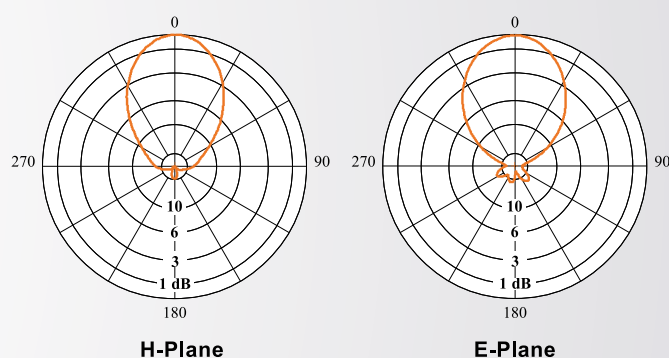
ELECTRICAL DATA

ANTENNA TYPE	FM-03
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	5 kW
VSWR	≤ 1.15
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	7.5 dB
HALF POWER BEAMWIDTH	E-Plane ± 34° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

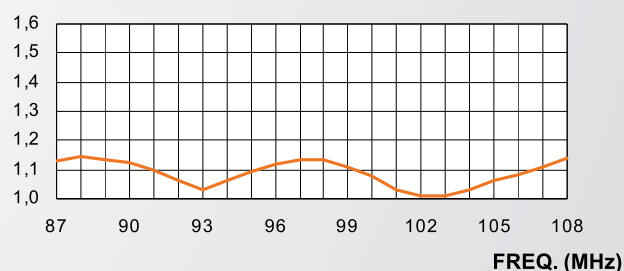
MECHANICAL DATA

DIMENSIONS mm (in)	2200 x 2000 x 991 (86.61 x 78.74 x 39.02)
WEIGHT kg (lb)	61 (134.5)
WIND SURFACE m² (ft²)	1.40 (15.1) front 1.01 (10.9) side
WIND LOAD kN (lbf)	1.76 (396) front 1.25 (281) side
MAX WIND VELOCITY km/h (mph)	270 (167.8)
MATERIALS	Reflector (hot dip galvanized steel) Dipoles (stainless steel) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast

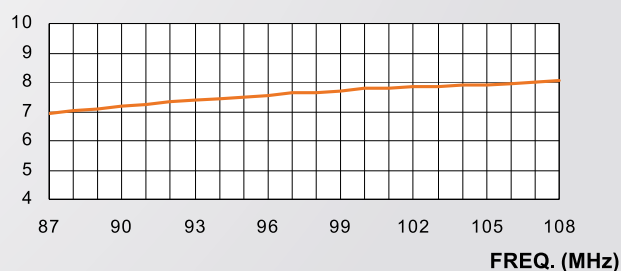
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



FM-03 (Horizontal polarization)

FM PANEL ANTENNA

FEATURES

- radiating systems with FM-03 panel
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network



FM-03/32 (8x4)
GUANGZHOU, P.R.C.

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.2 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

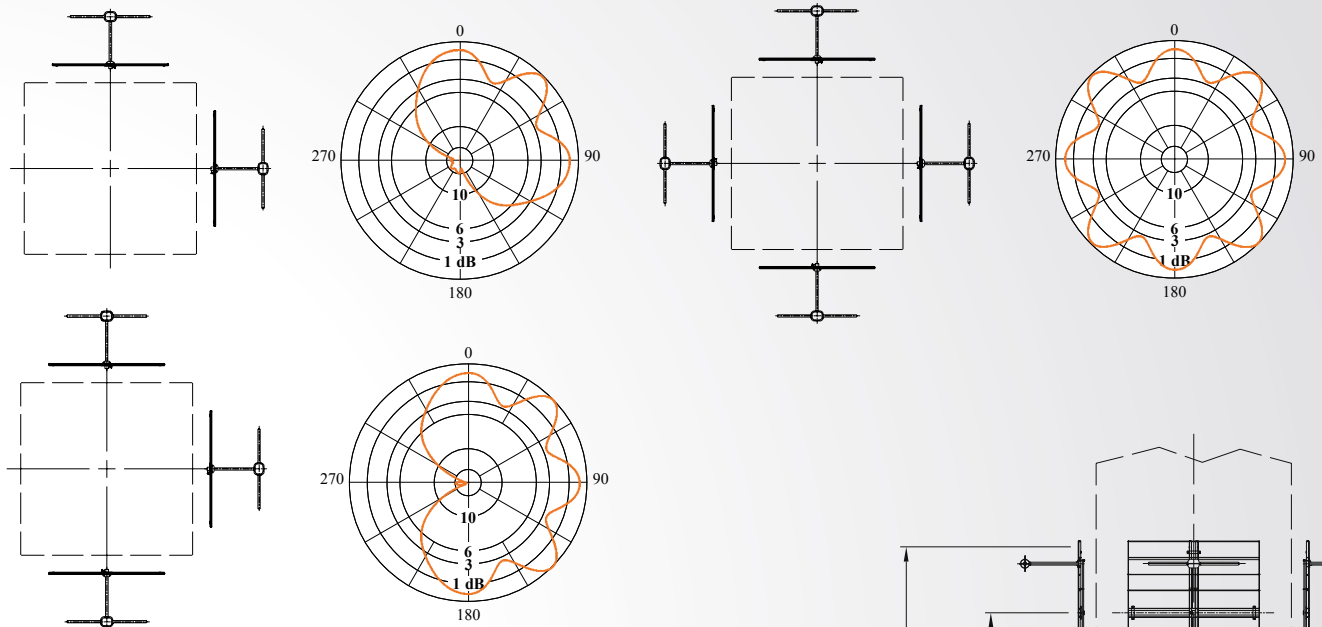
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

FM-03 (Horizontal polarization)

FM PANEL ANTENNA

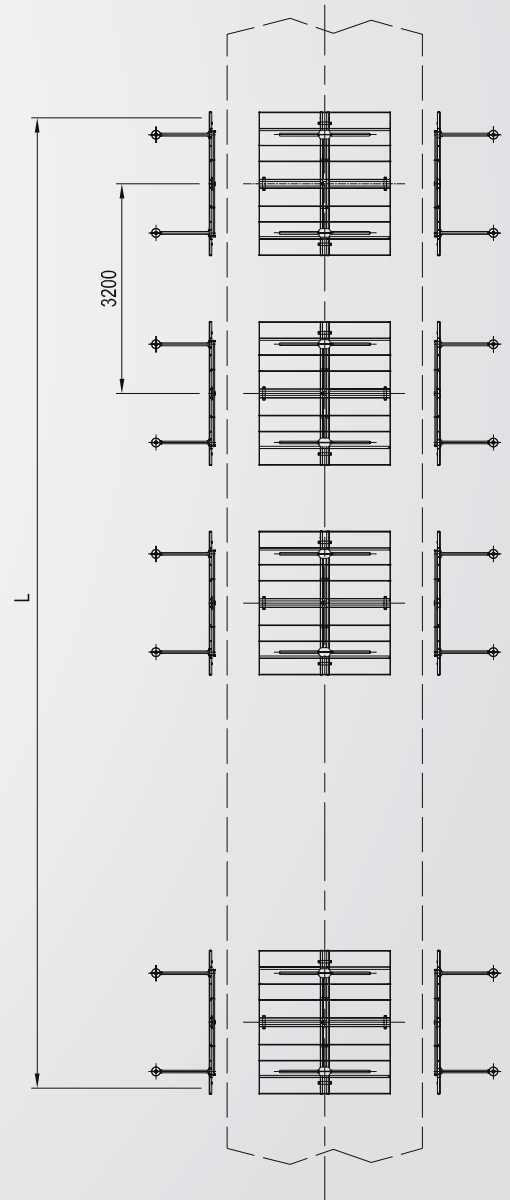
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHZ



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	2	5.2	3.3	138 (304)	2.2 (7.2)	2.38 (535)
	3	3.6	2.3	207 (456)		2.91 (654)
	4	2	1.6	283 (624)		3.32 (746)
2	1	11.2	13.2	138 (304)	5.4 (17.7)	2.50 (562)
	2	8.2	6.6	283 (624)		4.76 (1070)
	3	6.6	4.6	433 (955)		5.83 (1311)
	4	5.2	3.3	588 (1296)		6.64 (1493)
4	1	14.2	26.3	283 (624)	11.8 (38.7)	5.00 (1124)
	2	11.2	13.2	588 (1296)		9.53 (2142)
	3	9.6	9.1	880 (1940)		11.67 (2624)
	4	8.2	6.6	1086 (2394)		13.28 (2985)
6	1	16	39.8	433 (955)	18.2 (59.7)	7.50 (1686)
	2	13	20	880 (1940)		14.31 (3217)
	3	11.4	13.8	1250 (2756)		17.52 (3939)
	4	10	10	1670 (3682)		19.94 (4483)
8	1	17.4	55	588 (1296)	24.6 (80.7)	10.00 (2248)
	2	14.4	27.5	1086 (2394)		19.08 (4289)
	3	12.6	18.2	1670 (3682)		23.35 (5249)
	4	11.4	13.8	2175 (4795)		26.58 (5975)

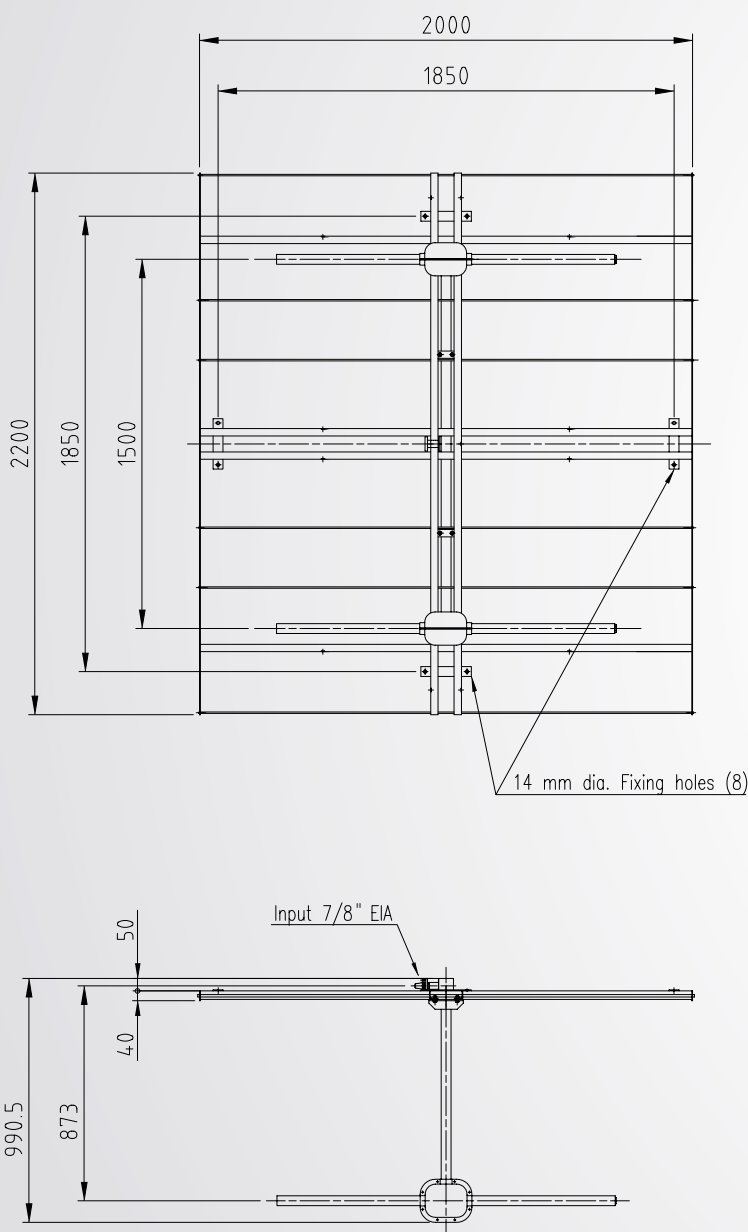
(1) referred to half wave dipole. Losses of power distribution network not included.
 (2) without mounting hardware
 (3) $v = 160 \text{ km/h (100 mph)}$



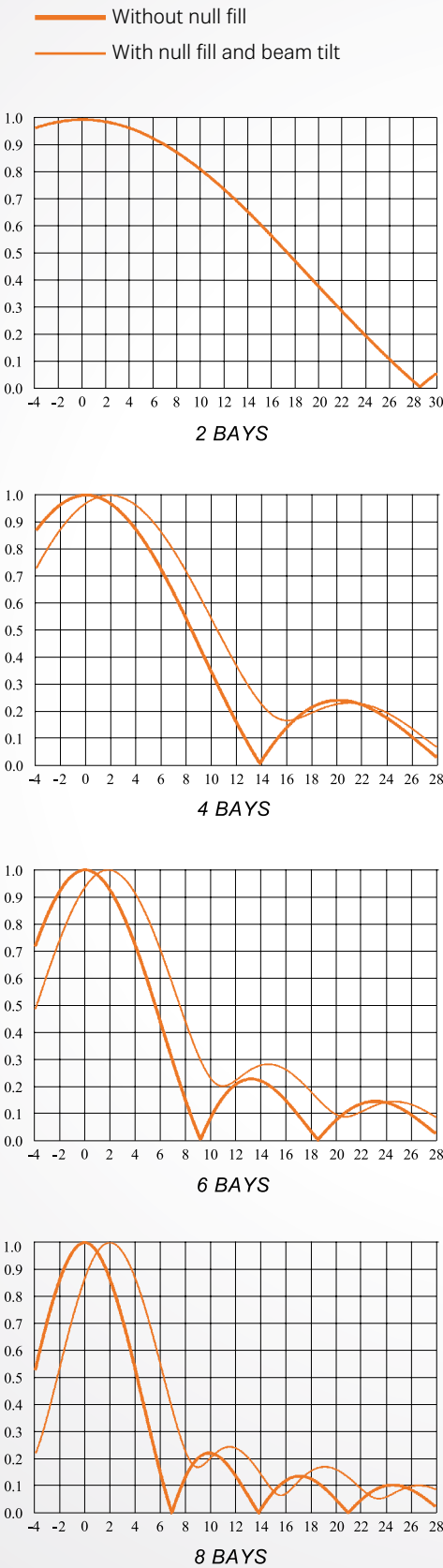
FM-03 (Horizontal polarization)

FM PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN



All dimensions are in millimeters

FM-03 (Vertical polarization)

FM PANEL ANTENNA

FEATURES

- vertical polarization
- broadband 87.5 ÷ 108 MHz
- 7.5 dB gain
- directional pattern
- suitable as a component in various arrays on square towers
- stainless steel dipoles
- suitable also for horizontal polarization



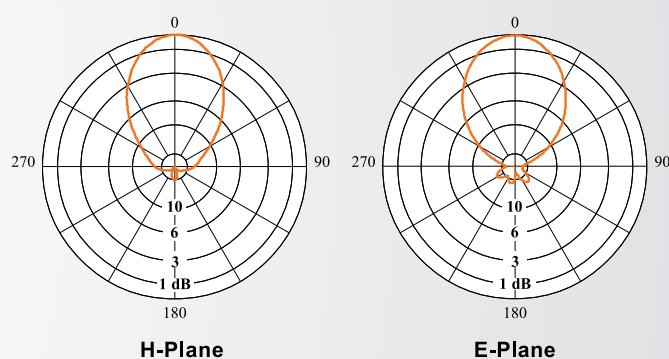
ELECTRICAL DATA

ANTENNA TYPE	FM-03
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	5 kW
VSWR	≤ 1.15
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	7.5 dB
HALF POWER BEAMWIDTH	E-Plane ± 34° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

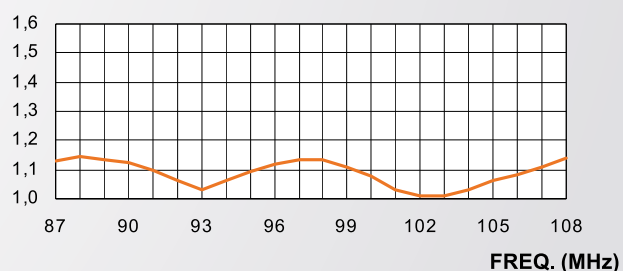
MECHANICAL DATA

DIMENSIONS mm (in)	2000 x 2200 x 991 (78.74 x 86.61 x 39.02)
WEIGHT kg (lb)	61 (134.5)
WIND SURFACE m² (ft²)	1.40 (15.1) front 1.01 (10.9) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.76 (396) front 1.25 (281) side
MAX WIND VELOCITY km/h (mph)	270 (167.8)
MATERIALS	Reflector (hot dip galvanized steel) Dipoles (stainless steel) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast

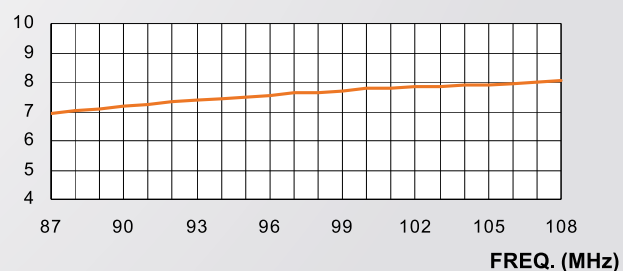
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)

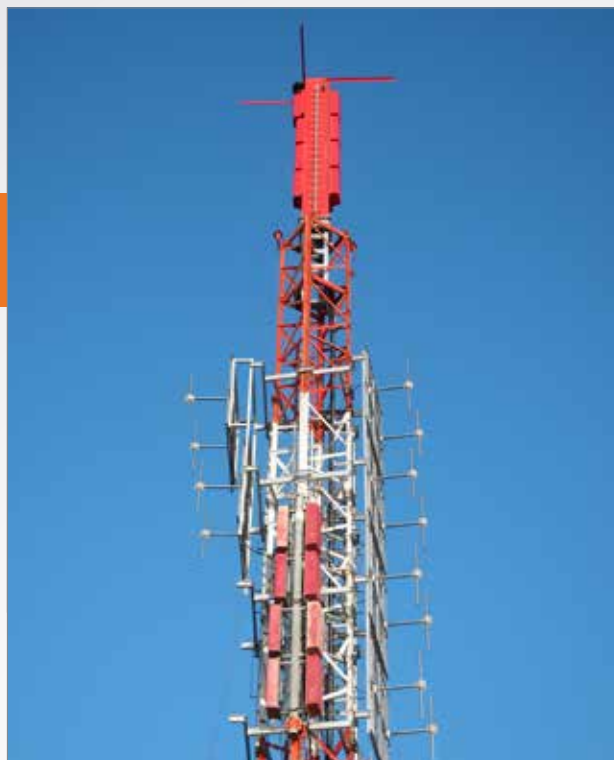


FM-03 (Vertical polarization)

FM PANEL ANTENNA

FEATURES

- radiating systems with FM-03 panel
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network



FM-03/10 (4+4+2)
ROSETO CAPO SPULICO, ITALY

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.2 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Vertical
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

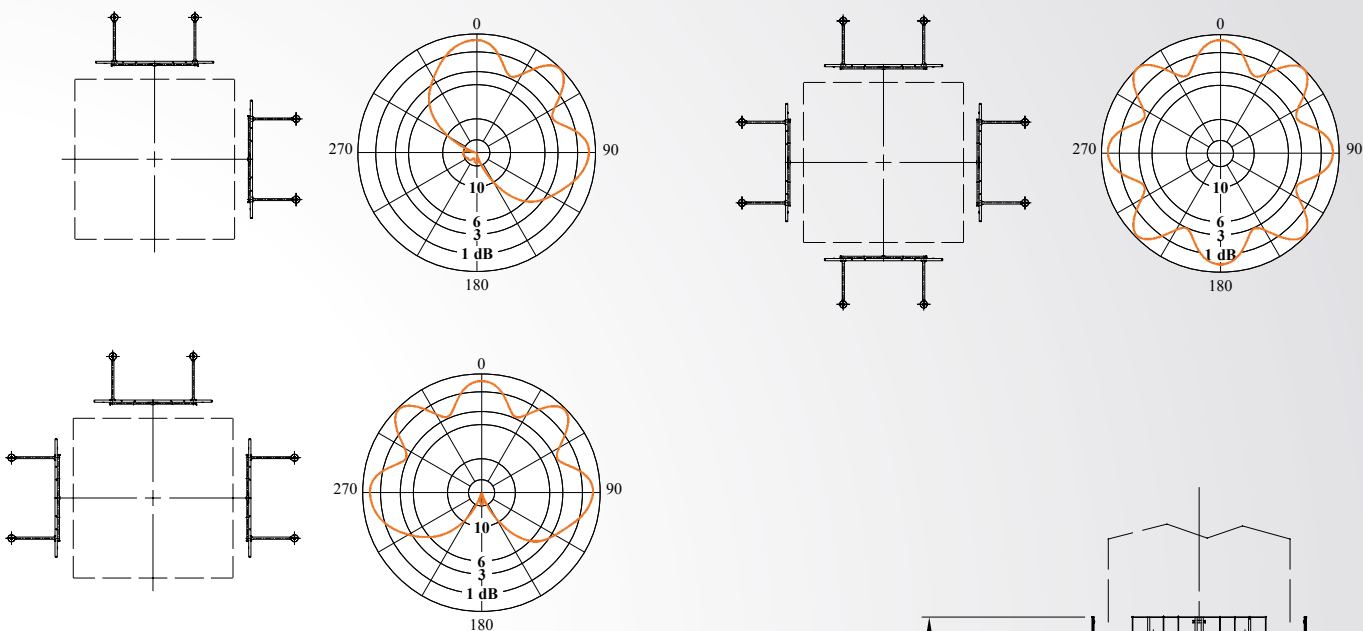
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

FM-03 (Vertical polarization)

FM PANEL ANTENNA

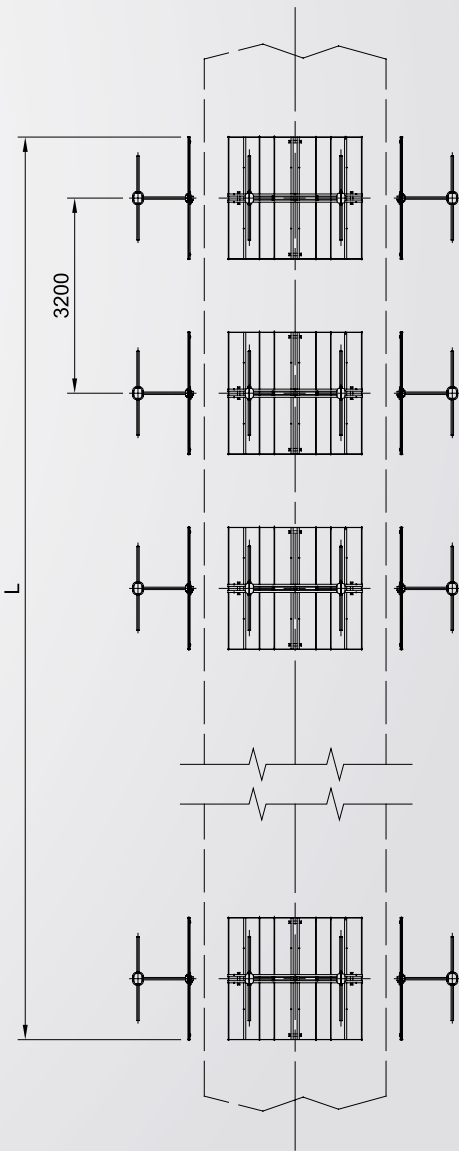
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	2	5	3.2	138 (304)	2 (6.56)	2.38 (535)
	3	3.2	2.1	207 (456)		2.91 (654)
	4	2	1.6	283 (624)		3.32 (746)
2	1	10.9	12.3	138 (304)	5.2 (17)	2.50 (562)
	2	8	6.3	283 (624)		4.76 (1070)
	3	6.2	4.2	433 (955)		5.83 (1311)
	4	5	3.2	588 (1296)		6.64 (1493)
4	1	13.9	24.5	283 (624)	11.6 (38)	5.00 (1124)
	2	11	12.6	588 (1296)		9.53 (2142)
	3	9.2	8.3	880 (1940)		11.67 (2624)
	4	8	6.3	1086 (2394)		13.28 (2985)
6	1	15.6	36.3	433 (955)	18 (59)	7.50 (1686)
	2	12.7	18.6	880 (1940)		14.31 (3217)
	3	10.9	12.3	1250 (2756)		17.52 (3939)
	4	9.7	9.3	1670 (3682)		19.94 (4483)
8	1	17	50.1	588 (1296)	24.4 (80)	10.00 (2248)
	2	14	25.1	1086 (2394)		19.08 (4289)
	3	12.2	16.6	1670 (3682)		23.35 (5249)
	4	11	12.6	2175 (4795)		26.58 (5975)

(1) referred to half wave dipole. Losses of power distribution network not included.
 (2) without mounting hardware
 (3) v= 160 km/h (100 mph)

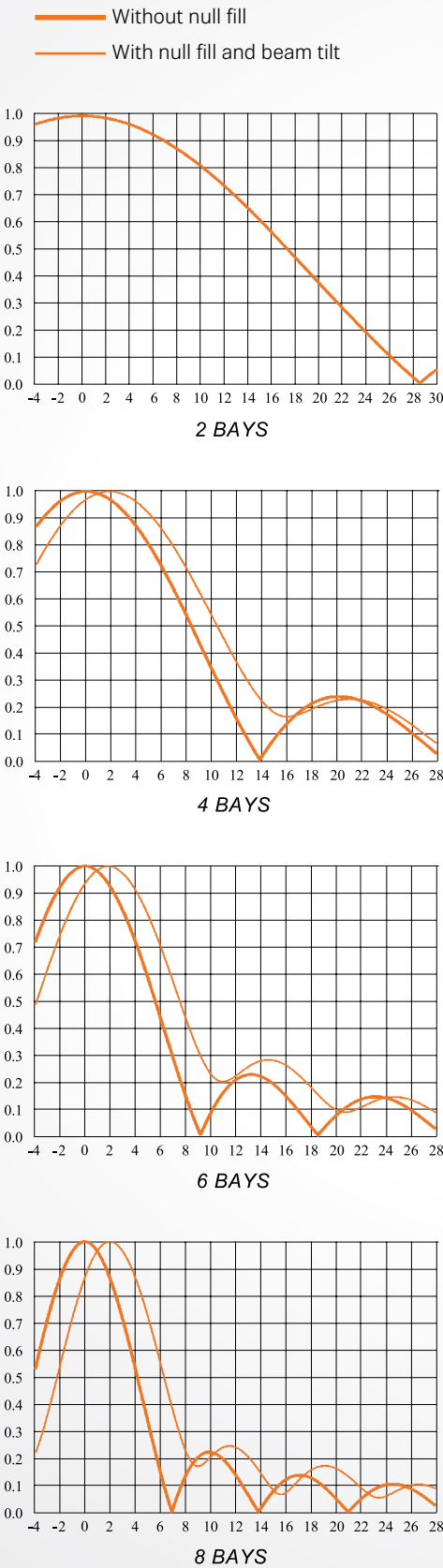
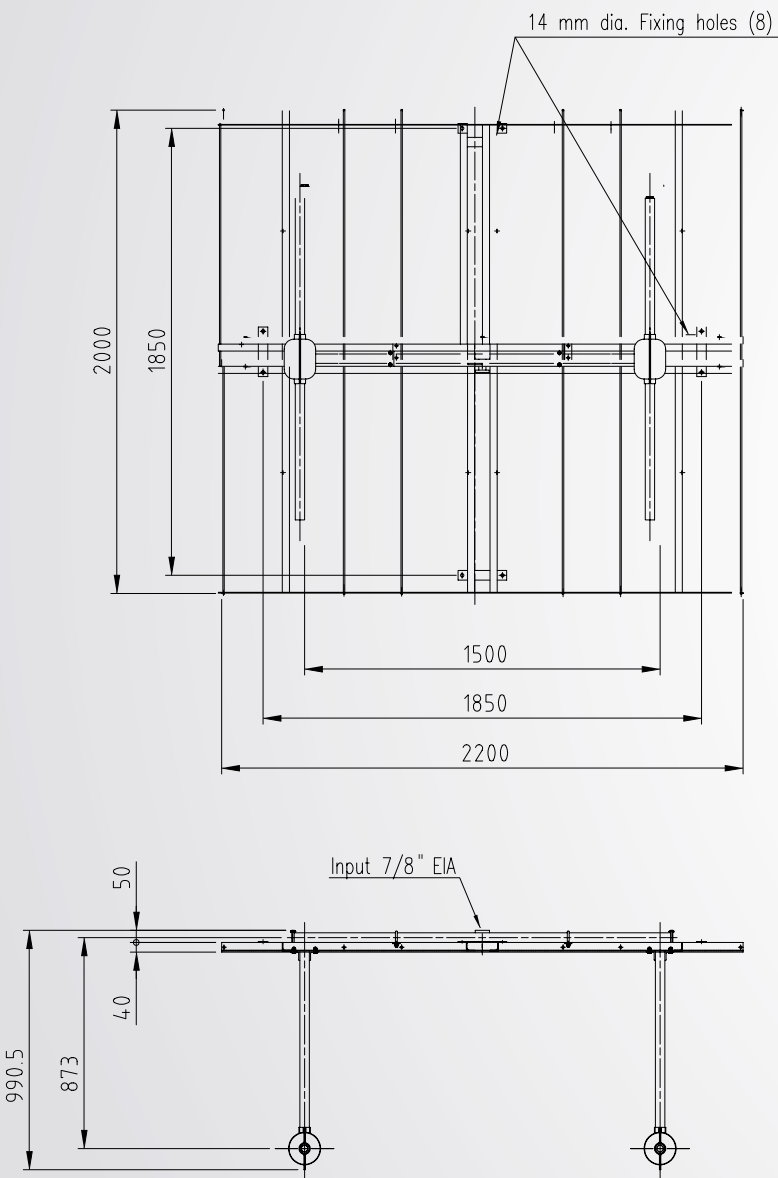


FM-03 (Vertical polarization)

FM PANEL ANTENNA

DIMENSIONAL DETAILS

VERTICAL PATTERN



All dimensions are in millimeters

FM-04

FM DIPOLE ANTENNA

FEATURES

- vertical polarization
- broadband 87.5 ÷ 108 MHz
- 2 dB gain
- omnidirectional pattern with preferred direction
- stainless steel

ELECTRICAL DATA

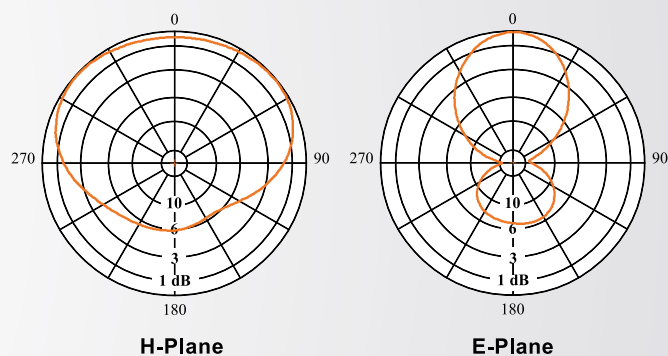
ANTENNA TYPE	FM-04
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/16 F or 7/8" EIA
MAX POWER	3 kW (7/16 F) 5 kW (7/8" EIA)
VSWR	≤ 1.25 TYPICAL
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	2 dB
HALF POWER BEAMWIDTH	E-Plane ± 37° H-Plane ± 105°
LIGHTNING PROTECTION	All metal parts DC grounded

MECHANICAL DATA

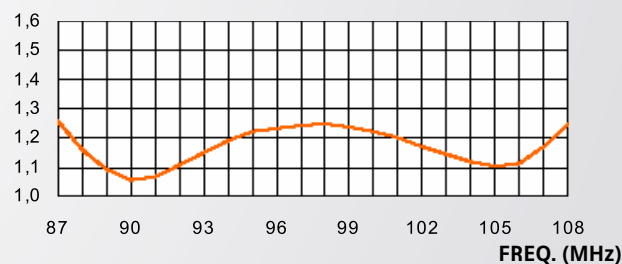
DIMENSIONS mm (in)	1138 x 1442 x 136 (44.8 x 56.77 x 5.35)
WEIGHT kg (lb)	10 (22)
WIND SURFACE m ² (ft ²)	0.20 (2.15) front 0.10 (1.08) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.23 (51.7) front 0.12 (27) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	External parts (stainless steel, nickel plated brass) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	with special pipe clamps ø 60 ÷ 114 (2.36 ÷ 4.5)



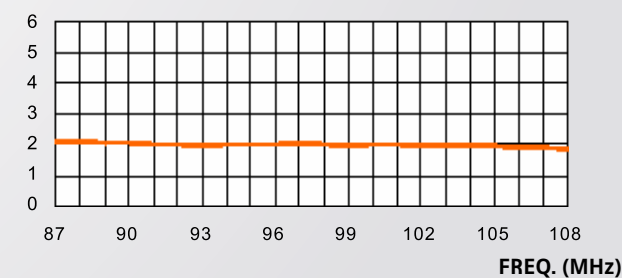
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



FM-04

FM DIPOLE ANTENNA

FEATURES

- radiating systems with FM-04
- omnidirectional patterns with preferred direction
- high power systems

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.25 in the operating frequency or ≤ 1.3 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Vertical
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

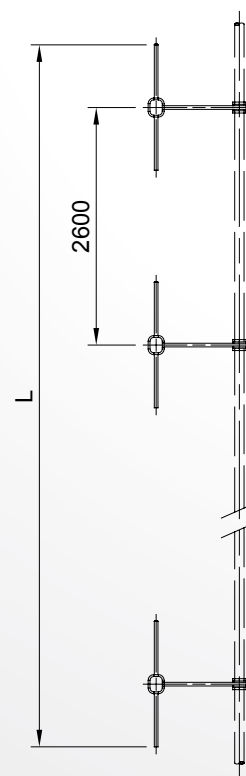
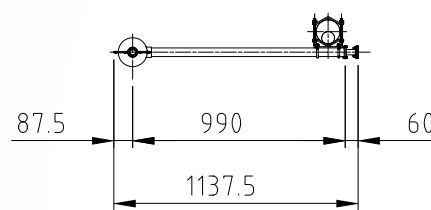
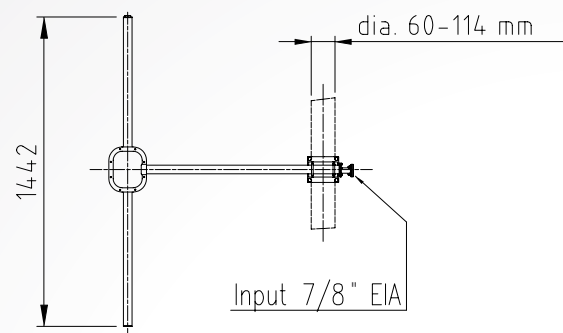
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	5	3.16	27 (59.5)	4.0 (13.1)	0.47 (106)
4	1	8	6.31	54 (119)	9.2 (30.2)	0.95 (214)
6	1	9.8	9.55	81 (178.6)	14.4 (47.2)	1.43 (321)
8	1	11	12.59	108 (238)	19.6 (64.3)	1.91 (429)
12	1	12.8	19.05	162 (357)	30.0 (98.4)	2.86 (643)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware.

(3) v= 160 km/h (100 mph)



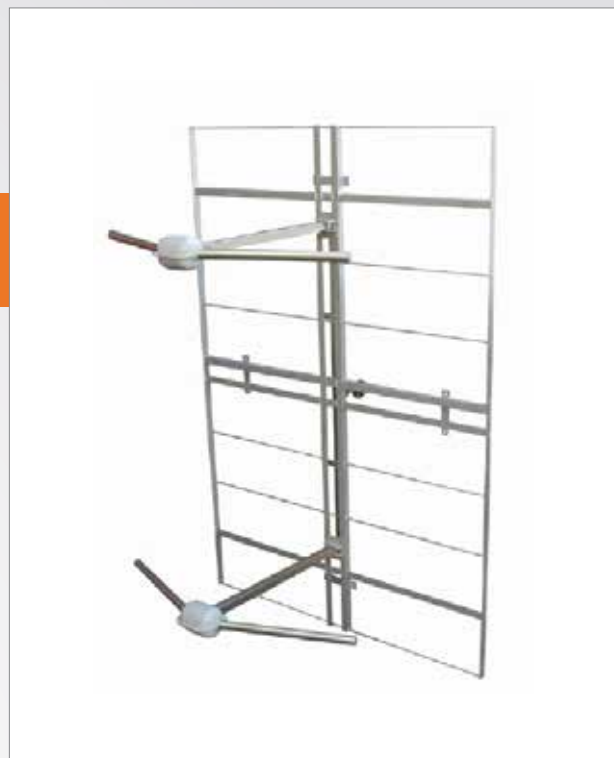
All dimensions are in millimeters

FM-05H

FM PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 87.5 ÷ 108 MHz
- 6.5 dB gain
- directional pattern
- suitable as a component in various arrays on triangular towers
- stainless steel dipoles



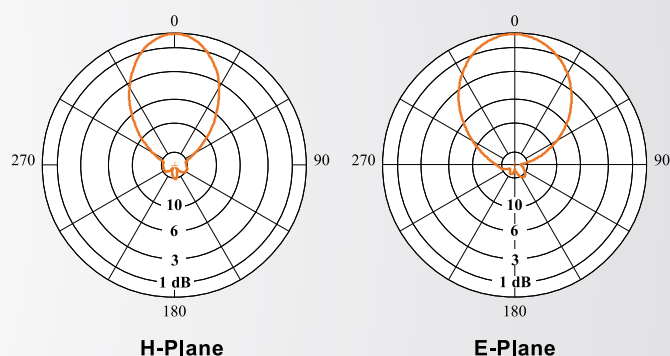
ELECTRICAL DATA

ANTENNA TYPE	FM-05H
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	5 kW
VSWR	≤ 1.15
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	6.5 dB
HALF POWER BEAMWIDTH	E-Plane ± 38° H-Plane ± 28°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

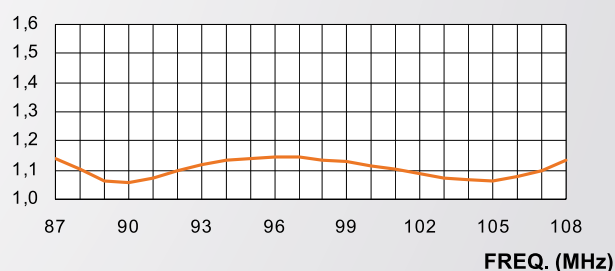
MECHANICAL DATA

DIMENSIONS mm (in)	2500 x 1700 x 1113 (98.43 x 66.93 x 43.82)
WEIGHT kg (lb)	62 (136.7)
WIND SURFACE m² (ft²)	1.34 (14.4) front 1.00 (10.76) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.65 (371) front 1.25 (281) side
MAX WIND VELOCITY km/h (mph)	270 (167.8)
MATERIALS	Reflector (hot dip galvanized steel) Dipoles (stainless steel) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast

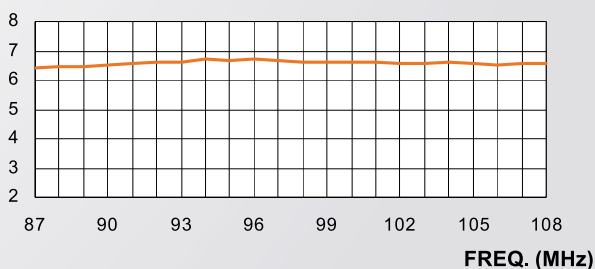
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



FM-05H

FM PANEL ANTENNA

FEATURES

- radiating systems with FM-05H panel
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network
- broadband 87.5 ÷ 108 MHz



FM-05H/12 (4x3)
SLUPSK, POLAND

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.2 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

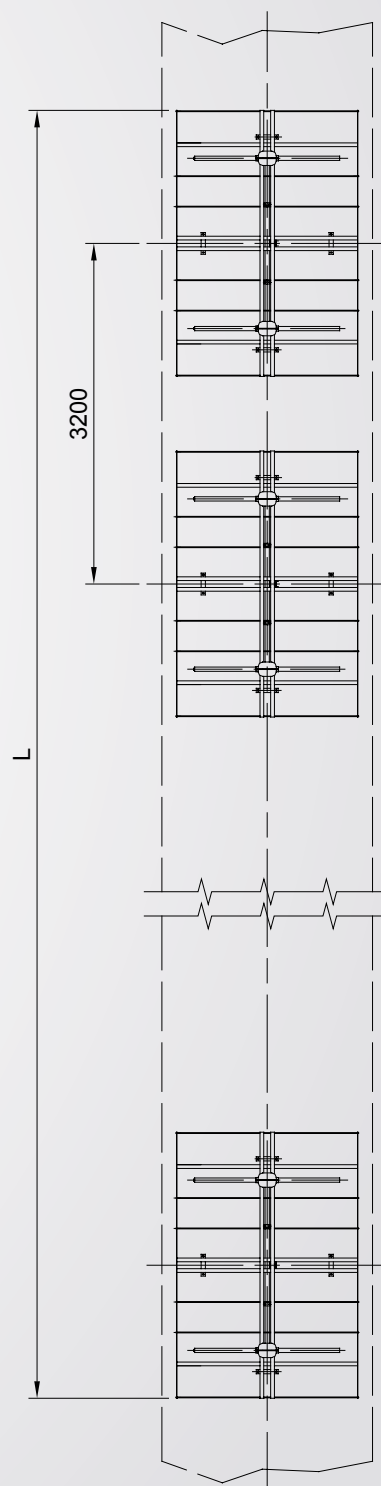
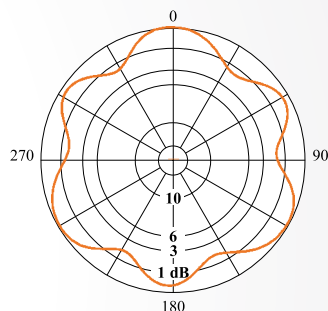
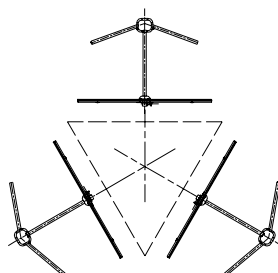
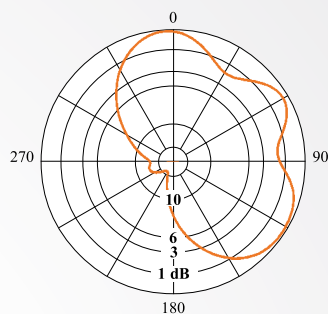
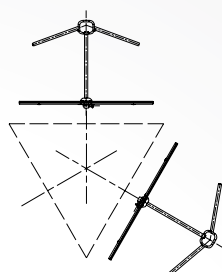
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

FM-05H

FM PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 FACES AT 98 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	2	3.3	2.1	140 (309)	2.5	2.23 (501)
	3	1.6	1.4	210 (463)	(8.2)	2.50 (562)
2	1	9.5	8.9	140 (309)	5.7	2.38 (535)
	2	6.5	4.5	287 (633)	(18.7)	4.47 (1005)
	3	4.8	3.0	438 (966)		5.00 (1124)
4	1	12.7	18.6	287 (633)	12.1	4.77 (1072)
	2	9.7	9.3	596 (1314)	(39.7)	8.93 (2008)
	3	8.0	6.3	892 (1967)		10.00 (2248)
6	1	14.5	28.2	438 (966)	18.5	7.16 (1610)
	2	11.5	14.1	892 (1967)	(60.7)	13.4 (3012)
	3	9.8	9.6	1260 (2778)		15.00 (3372)
8	1	15.8	38.0	596 (1314)	24.9	9.55 (2147)
	2	12.8	19.0	1102 (2429)	(81.7)	17.87 (4017)
	3	11.1	12.9	1695 (3737)		20.03 (4503)

(1) referred to half wave dipole. Losses of power distribution network not included.

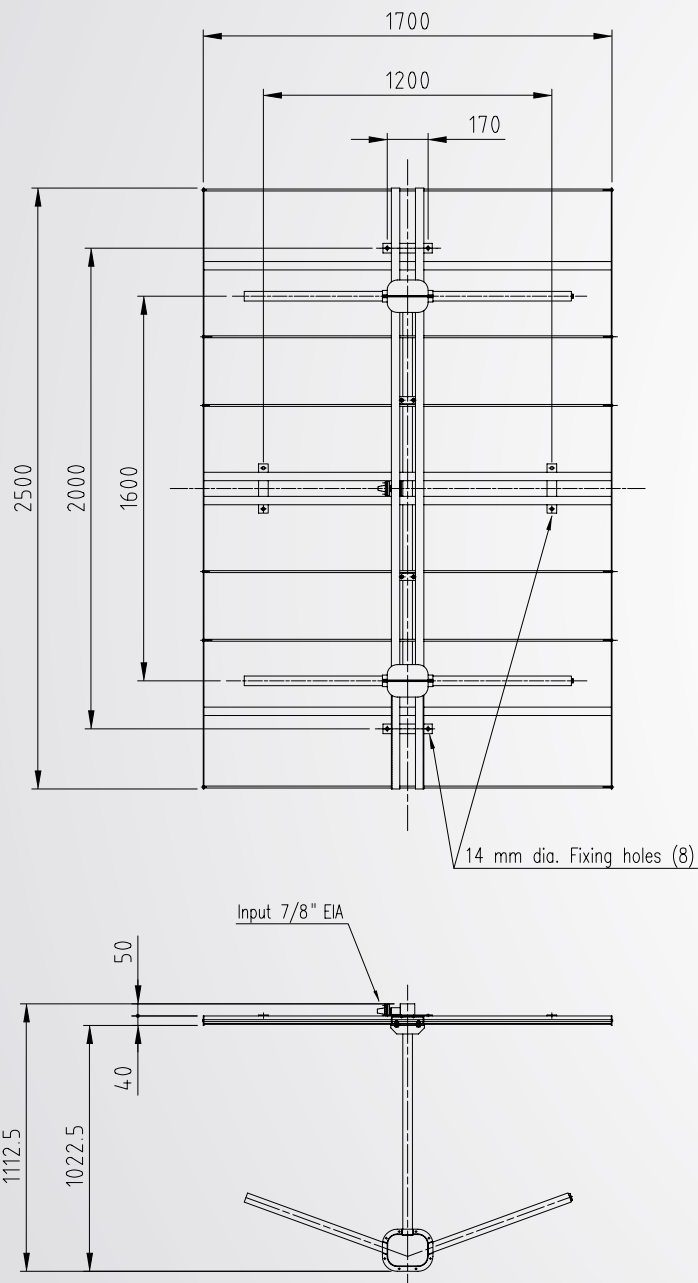
(2) without mounting hardware

(3) v= 160 km/h (100 mph)

FM-05H

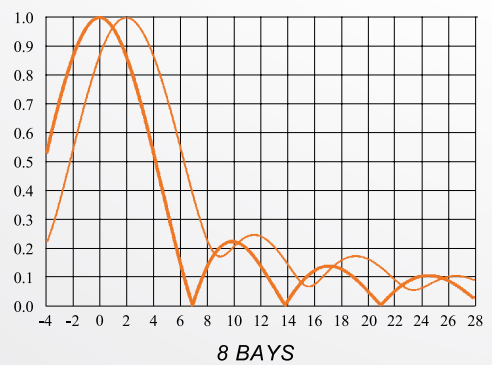
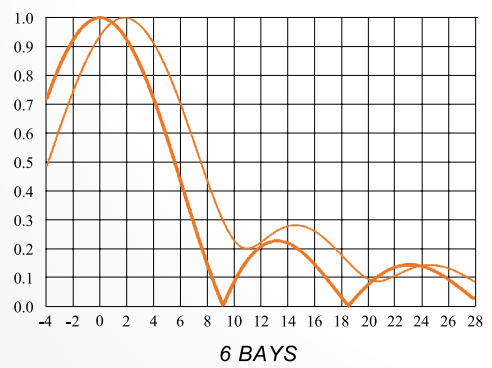
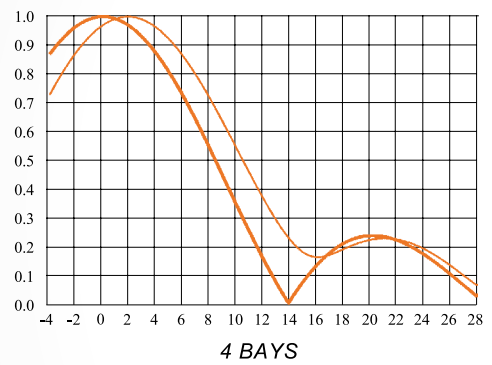
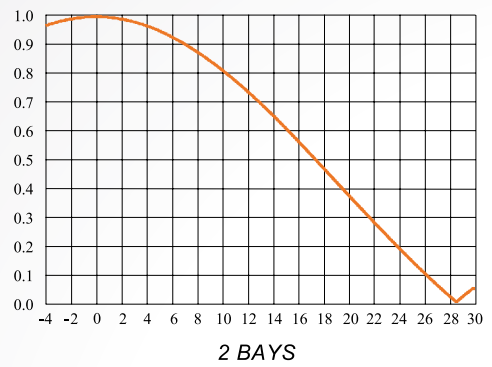
FM PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN

— Without null fill
— With null fill and beam tilt



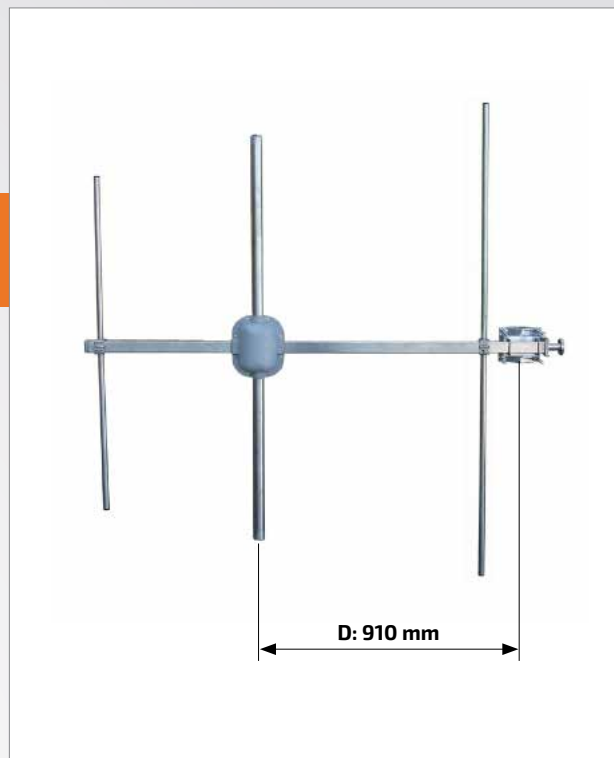
All dimensions are in millimeters

FM-07

FM YAGI ANTENNA

FEATURES

- vertical or horizontal polarization
- broadband 87.5 ÷ 108 MHz
- 4.5 dB gain
- directional pattern
- stainless steel



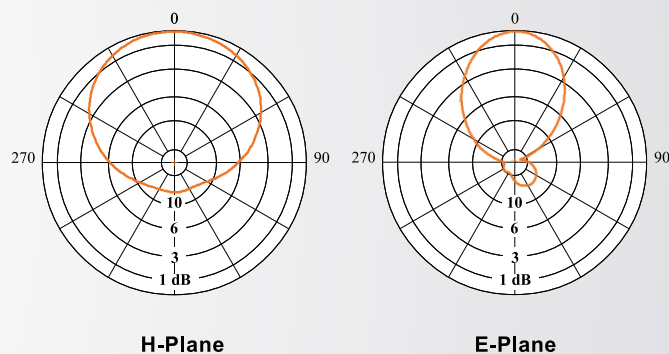
ELECTRICAL DATA

ANTENNA TYPE	FM-07
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	5 kW
VSWR	≤ 1.3
POLARIZATION	Vertical or Horizontal
GAIN (referred to half wave dipole)	4.5 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 65°
LIGHTNING PROTECTION	All metal parts DC grounded

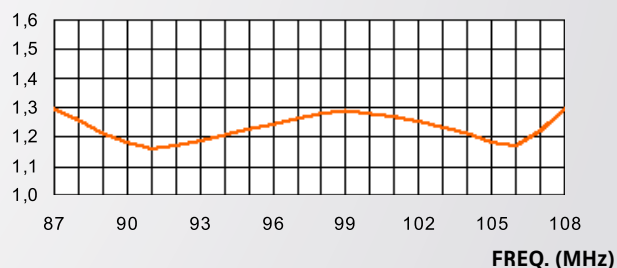
MECHANICAL DATA

DIMENSIONS mm (in)	1643 x 1684 x 136 (64.69 x 66.3 x 5.35)
WEIGHT kg (lb)	14 (30.9)
WIND SURFACE m ² (ft ²)	0.16 (1.72) front 0.31 (3.34) side
WIND LOAD kN (lbf)	0.20 (45) front 0.37 (83.2) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	External parts (stainless steel, nickel plated brass) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	with special pipe clamps ø 60 ÷ 114 (2.36 ÷ 4.5)

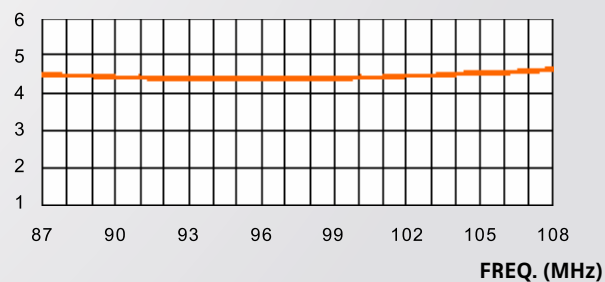
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



FM-07

FM YAGI ANTENNA

FEATURES

- radiating systems with FM-07
- directional patterns
- high power systems
- broadband 87.5 ÷ 108 MHz

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.25 in the operating frequency or ≤ 1.3 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Vertical or Horizontal
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

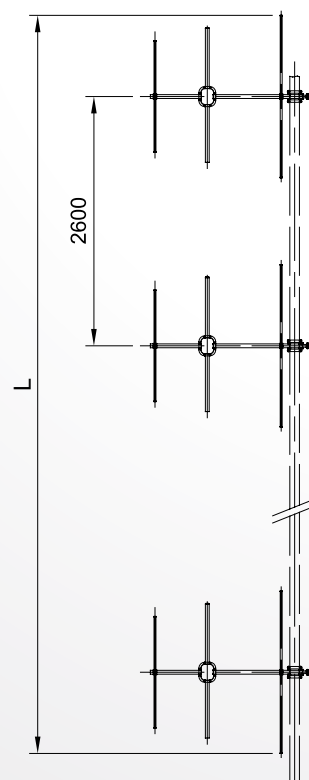
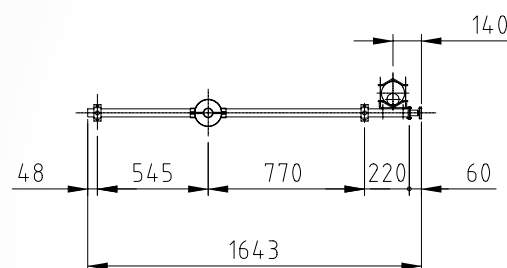
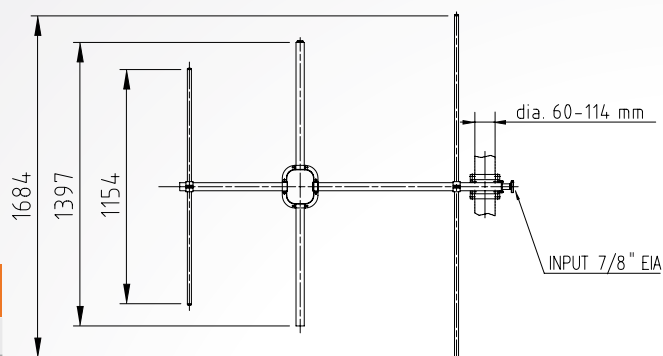
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	7.5	5.6	32 (70.5)	4.3 (14.1)	0.75 (169)
4	1	10.5	11.2	64 (141)	9.5 (31.2)	1.50 (337)
6	1	12.2	16.6	96 (212)	14.7 (48.2)	2.25 (506)
8	1	13.5	22.3	128 (282)	19.9 (65.3)	3.00 (674)
12	1	15.2	33.2	192 (423)	30.3 (99.4)	4.50 (1012)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

(3) v= 160 km/h (100 mph)



All dimensions are in millimeters

FM-34

FM ANTENNA

FEATURES

- vertical polarization
- broadband 87.5 ÷ 108 MHz
- 5 dB gain
- omnidirectional pattern with preferred direction



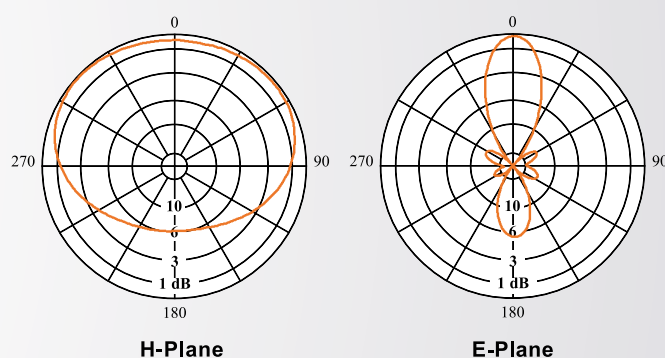
ELECTRICAL DATA

ANTENNA TYPE	FM-34
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	1-5/8" EIA
MAX POWER	10 kW
VSWR	≤ 1.2
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	5 dB
HALF POWER BEAMWIDTH	E-Plane ± 18° H-Plane ± 110°
LIGHTNING PROTECTION	All metal parts DC grounded

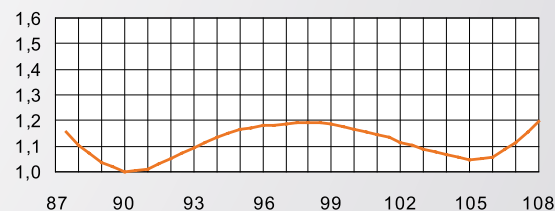
MECHANICAL DATA

DIMENSIONS mm (in)	1120 x 4350 x 200 (44.1 x 171.3 x 7.87)
WEIGHT kg (lb)	26 (57.3)
WIND SURFACE m² (ft²)	0.7 (7.53)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.86 (193)
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	External parts (aluminium) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on top of existing mast by means of a flange

RADIATION PATTERNS (Mid Band)

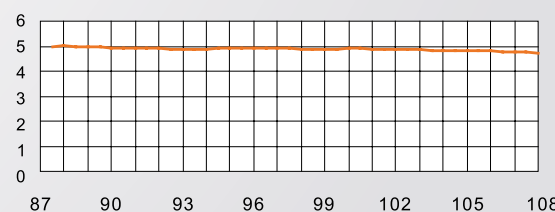


VSWR



FREQ. (MHz)

GAIN (dB)



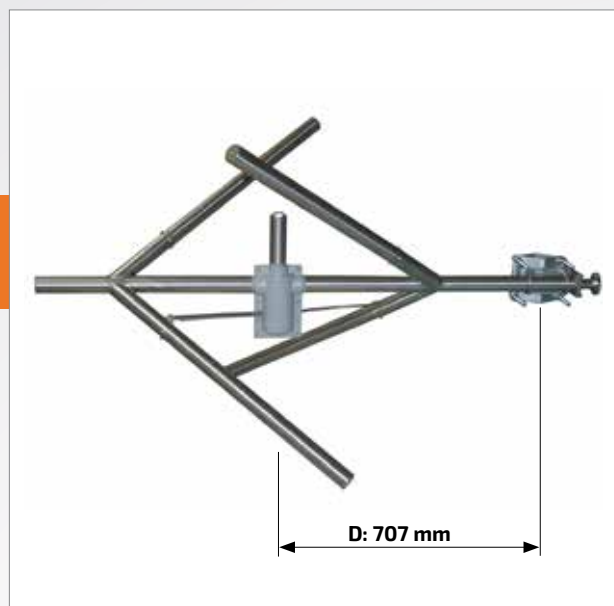
FREQ. (MHz)

FMC-01

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- circular/elliptical polarization
- broadband $87.5 \div 104$ MHz
 $92 \div 108$ MHz



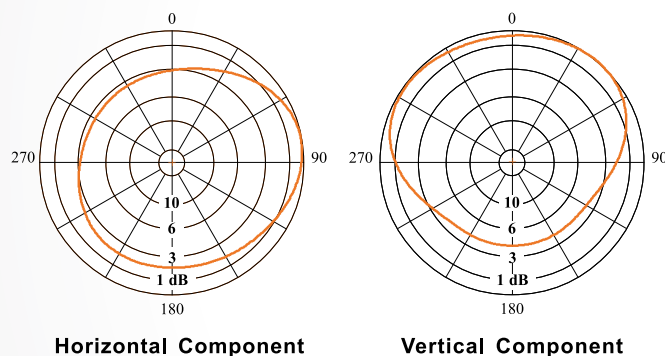
ELECTRICAL DATA

ANTENNA TYPE	FMC-01
FREQUENCY RANGE	$87.5 \div 104$ MHz $92 \div 108$ MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	1.5 kW
VSWR	≤ 1.5
POLARIZATION	Circular/Elliptical
GAIN (referred to half wave dipole)	-1.5 dB
HALF POWER BEAMWIDTH	Omnidirectional ± 1.5 dB in free space Omnidirectional ± 2 dB with $\varnothing 100$ pole
LIGHTNING PROTECTION	All metal parts DC grounded

MECHANICAL DATA

DIMENSIONS mm (in)	1447 x 801 x 801 (56.97 x 31.54 x 31.54)	1447 x 767 x 767 (56.97 x 30.2 x 30.2)
WEIGHT kg (lb)	12.5 (27.6)	
WIND SURFACE m ² (ft ²)	0.18 (1.94) front 0.26 (2.8) side	
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.22 (49.5) front 0.31 (69.7) side	
MAX WIND VELOCITY km/h (mph)	220 (136.7)	
MATERIALS	brass, aluminium, stainless steel, hot dip galvanized steel (bracket) teflon, fiberglass (radome)	
ICING PROTECTION	Feed point radome	
RADOME COLOUR	Grey (standard)	
MOUNTING mm (in)	With special pipe clamps $\varnothing 60 \div 114$ (2.36 $\div$ 4.5)	

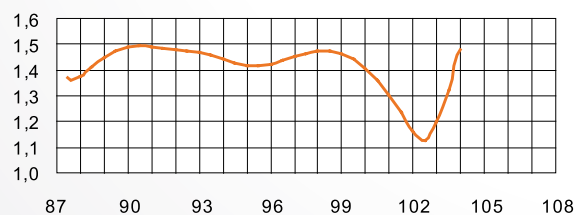
RADIATION PATTERNS (Mid Band)



Horizontal Component

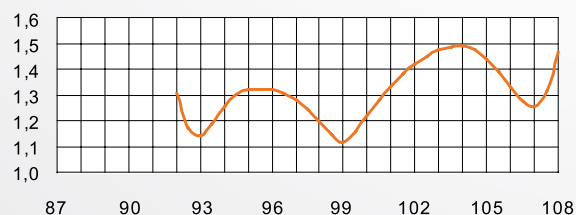
Vertical Component

VSWR



FREQ. (MHz)

VSWR



FREQ. (MHz)

FMC-01

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- radiating systems with FMC-01 dipole
- omnidirectional patterns

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR (in the operating frequency)	≤ 1.35 without fine matcher ≤ 1.25 with one fine matcher ≤ 1.1 with two fine matchers
POLARIZATION	Circular/Elliptical
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

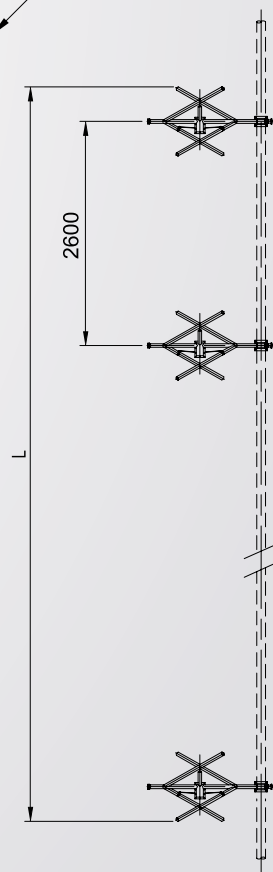
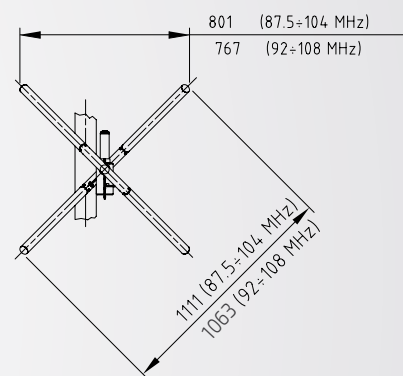
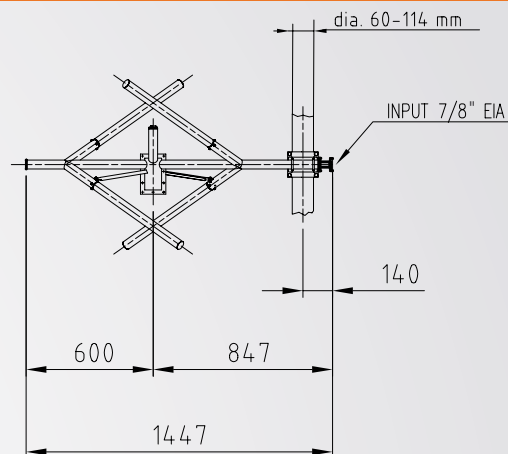
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	1.5	1.41	36 (79)	3.4 (11.2)	0.63 (142)
4	1	4.5	2.82	70 (154)	8.6 (28.2)	1.27 (286)
6	1	6.2	4.17	107 (236)	13.8 (45.3)	1.91 (429)
8	1	7.5	5.62	146 (322)	19.0 (62.3)	2.54 (571)
12	1	9.2	8.32	236 (520)	29.4 (96.5)	3.82 (859)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware, for FMC-01 dipole

(3) v= 160 km/h (100 mph)



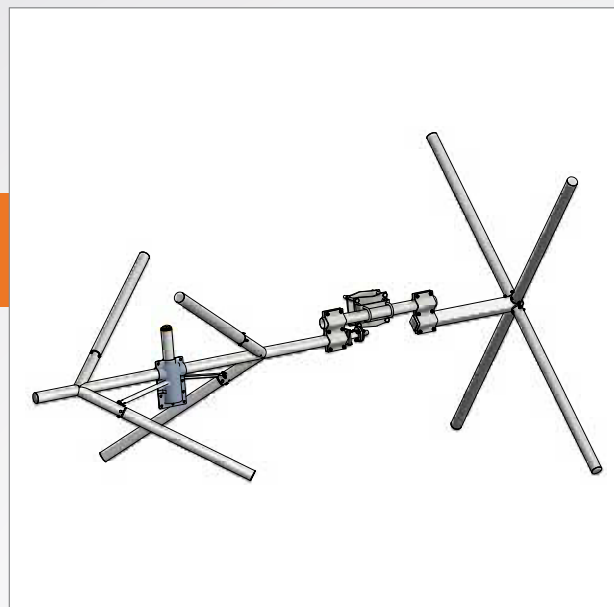
All dimensions are in millimeters

FMC-01/R

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- circular/elliptical polarization
- broadband $87.5 \div 104 \text{ MHz}$
 $92 \div 108 \text{ MHz}$



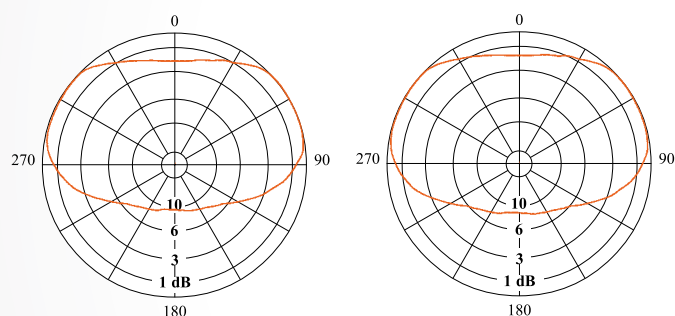
ELECTRICAL DATA

ANTENNA TYPE	FMC-01/R	
FREQUENCY RANGE	$87.5 \div 104 \text{ MHz}$	$92 \div 108 \text{ MHz}$
IMPEDANCE	50 ohm	
CONNECTOR	7/8" EIA	
MAX POWER	1.5 kW	
VSWR	≤ 1.55	
POLARIZATION	Circular/Elliptical	
GAIN (referred to half wave dipole)	0.5 dB	
LIGHTNING PROTECTION	All metal parts DC grounded	

MECHANICAL DATA

DIMENSIONS mm (in)	2163 x 1200 x 1200 (85.16 x 47.24 x 47.24)
WEIGHT kg (lb)	22 (48.5)
WIND SURFACE m ² (ft ²)	0.34 (3.66) front 0.49 (5.27) side
WIND LOAD kN (lbf)	0.42 (94.4) front 0.60 (134.9) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	brass, aluminium, stainless steel, hot dip galvanized steel (bracket) teflon, fiberglass (radome)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	With special pipe clamps $\varnothing 60 \div 114$ (2.36 $\div$ 4.5)

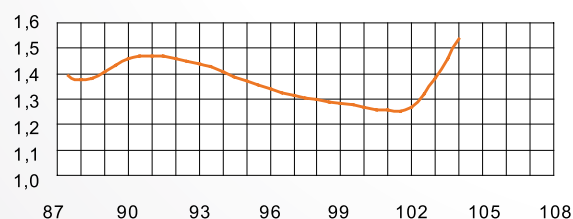
RADIATION PATTERNS (Mid Band)



Horizontal Component

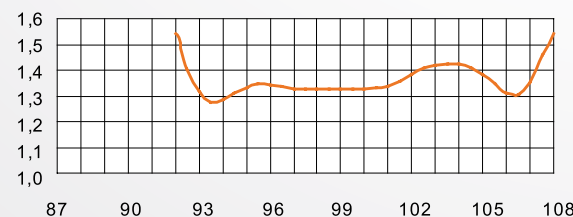
Vertical Component

VSWR



FREQ. (MHz)

VSWR



FREQ. (MHz)

FMC-01/R

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- radiating systems with FMC-01/R dipole
- directional patterns

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 104 MHz	92 ÷ 108 MHz
IMPEDANCE	50 ohm	
CONNECTOR	EIA flange according to system power rating	
POWER RATING	The antenna system can accept any power according to requirements	
VSWR (in the operating frequency)	≤ 1.35 without fine matcher	
	≤ 1.25 with one fine matcher	
	≤ 1.1 with two fine matchers	
POLARIZATION	Circular/Elliptical	
GAIN	Refer to table	
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order	
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.	

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

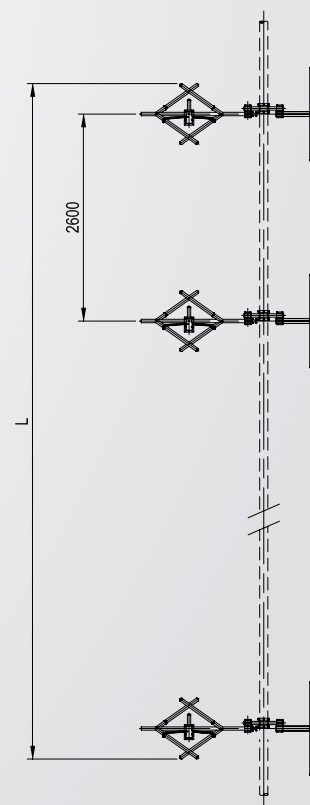
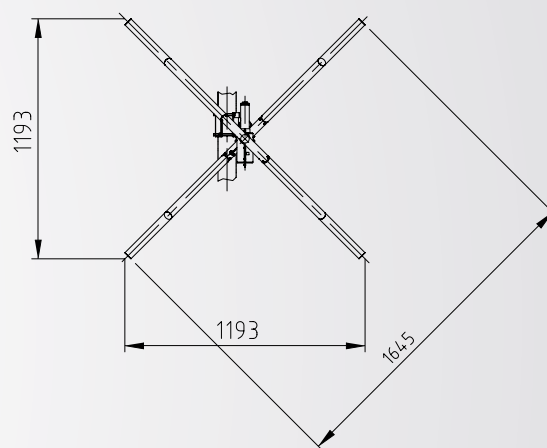
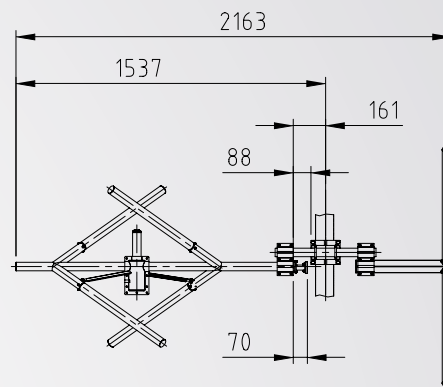
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	3.5	2.24	57 (126)	3.8 (12.5)	1.20 (270)
4	1	6.5	4.47	112 (247)	9.0 (29.5)	2.41 (542)
6	1	8.3	6.76	170 (375)	14.2 (46.6)	3.61 (812)
8	1	9.5	9.81	230 (507)	19.4 (63.6)	4.82 (1084)
12	1	11.3	13.49	362 (798)	29.8 (97.8)	7.23 (1625)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware, for FMC-01/R dipole

(3) v= 160 km/h (100mph)



FMC-03

FM PANEL ANTENNA

FEATURES

- circular polarization
- broadband 87.5 ÷ 108 MHz
- 4.5 dB gain
- directional pattern
- suitable as a component in various arrays on square towers
- stainless steel dipoles



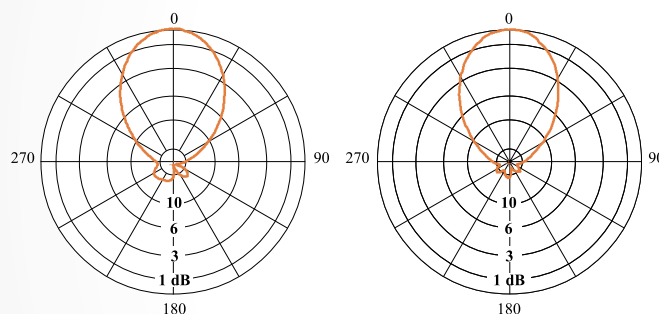
ELECTRICAL DATA

ANTENNA TYPE	FMC-03
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	4 x 7/8" EIA or 4 x 7/16 F
MAX POWER	20 kW (5 kW per dipole in 7/8") 12 kW (3 kW per dipole in 7/16)
VSWR	≤ 1.1 (in circular polarization)
POLARIZATION	Circular
GAIN (referred to half wave dipole)	4.5 dB (Circular polarization) 7.5 dB (Linear polarization)
HALF POWER BEAMWIDTH	Horizontal Component: ± 32° Vertical component: ± 32°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

MECHANICAL DATA

DIMENSIONS mm (in)	2200 x 2200 x 1018 (86.61 x 86.61 x 40.08)
WEIGHT kg (lb)	99 (218)
WIND SURFACE m² (ft²)	1.60 (17.2) front 1.48 (15.9) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.93 (434) front 1.82 (409) side
MAX WIND VELOCITY km/h (mph)	270 (167.8)
MATERIALS	Reflector (hot dip galvanized steel) Dipoles (stainless steel) Internal parts (silver plated brass, polished brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast

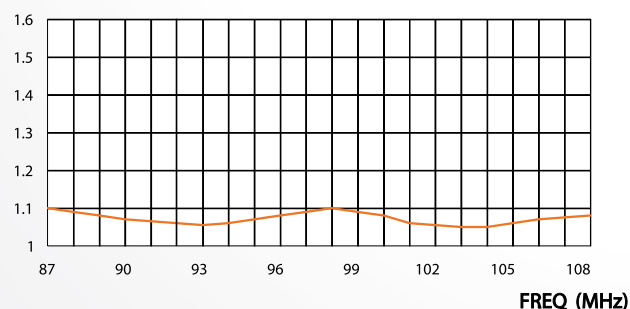
RADIATION PATTERNS (Mid Band)



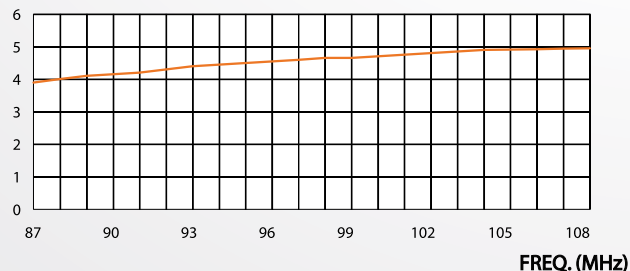
Horizontal Component

Vertical Component

VSWR



GAIN (dB)



FMC-03

FM PANEL ANTENNA

FEATURES

- radiating systems with FMC-03 panel on square towers
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network
- broadband 87.5÷108 MHz



FMC-03/12 (4x3)
IMPERIA, ITALY

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.1 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Circular / Elliptical on request
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves) Each half can accept full power

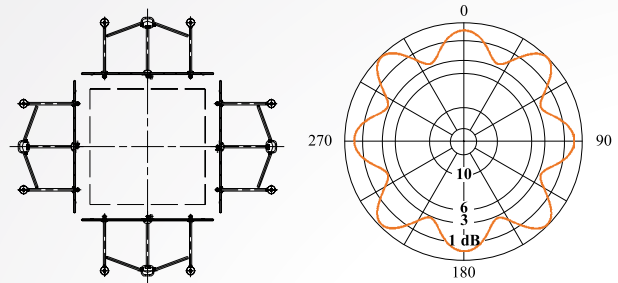
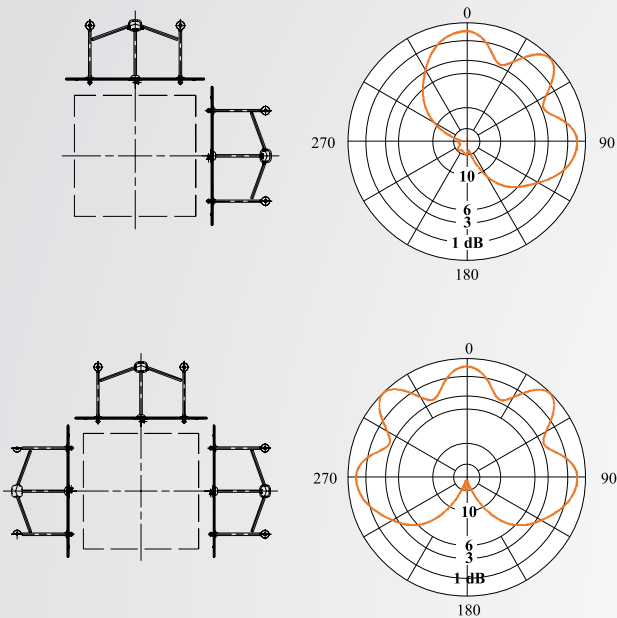
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

FMC-03

FM PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHz



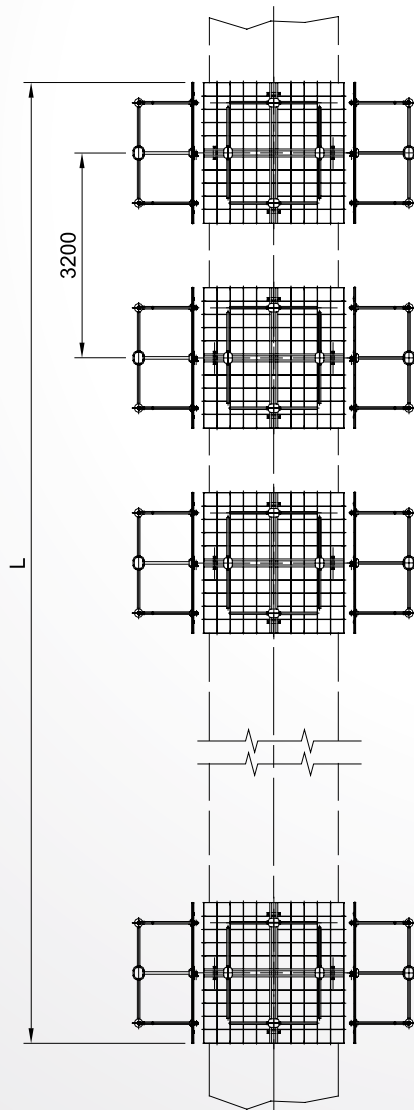
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	2	1.9	1.55	249 (549)	2.2 (7.2)	3.94 (886)
	3	0.4	1.1	388 (855)		4.91 (1104)
	4	-0.7	0.85	494 (1089)		5.89 (1324)
2	1	7.6	5.75	249 (549)	5.4 (17.7)	3.22 (724)
	2	4.9	3.09	494 (1089)		7.89 (1774)
	3	3.4	2.19	771 (1700)		9.83 (2210)
	4	2.4	1.74	1004 (2213)		11.78 (2648)
4	1	10.6	11.5	494 (1089)	11.8 (38.7)	6.44 (1448)
	2	7.9	6.16	1004 (2213)		15.80 (3552)
	3	6.4	4.36	1464 (3228)		19.66 (4420)
	4	5.4	3.47	1956 (4312)		23.55 (5294)
6	1	12.4	17.38	771 (1700)	18.2 (59.7)	9.67 (2174)
	2	9.8	9.55	1464 (3228)		23.71 (5330)
	3	8.3	6.76	2245 (4949)		29.49 (6630)
	4	7.1	5.13	2951 (6506)		35.34 (7945)
8	1	13.8	23.98	1004 (2213)	24.6 (80.7)	12.90 (2900)
	2	11.1	12.88	1956 (4312)		31.61 (7106)
	3	9.6	9.12	2951 (6506)		39.32 (8839)
	4	8.6	7.24	3857 (8503)		47.11 (10591)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

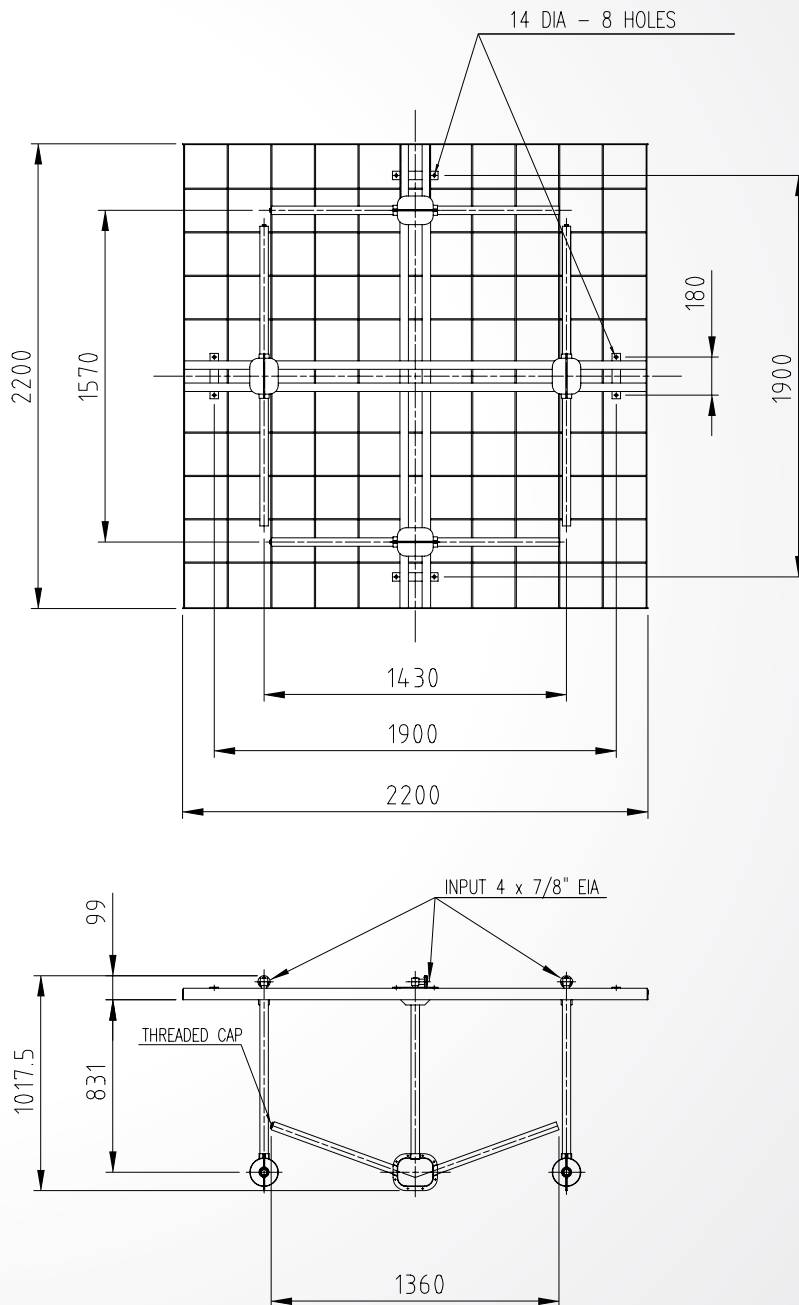
(3) v= 160 km/h (100 mph)



FMC-03

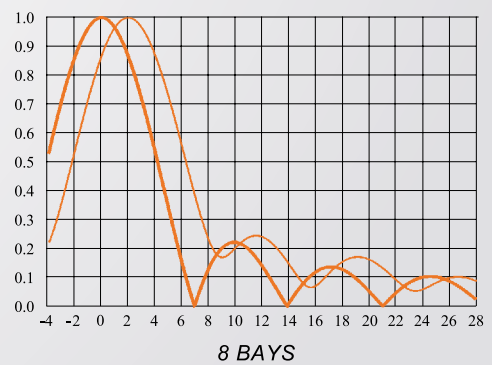
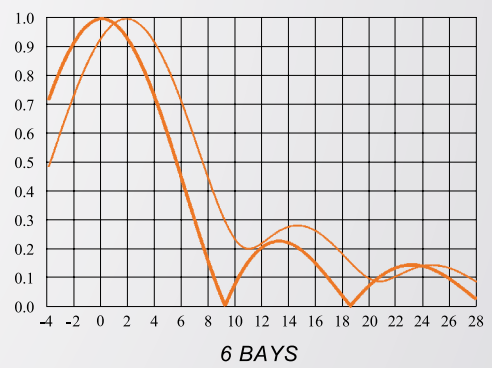
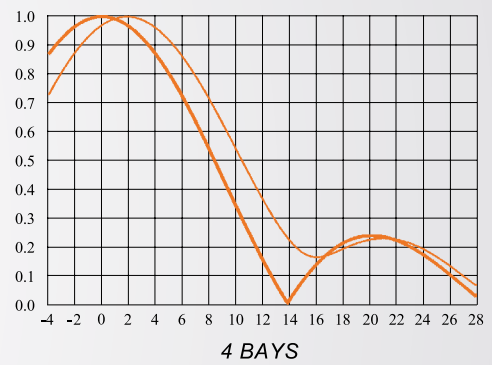
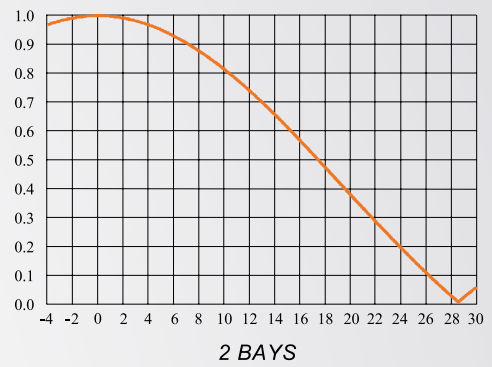
FM PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN

— Without null fill
— With null fill and beam tilt



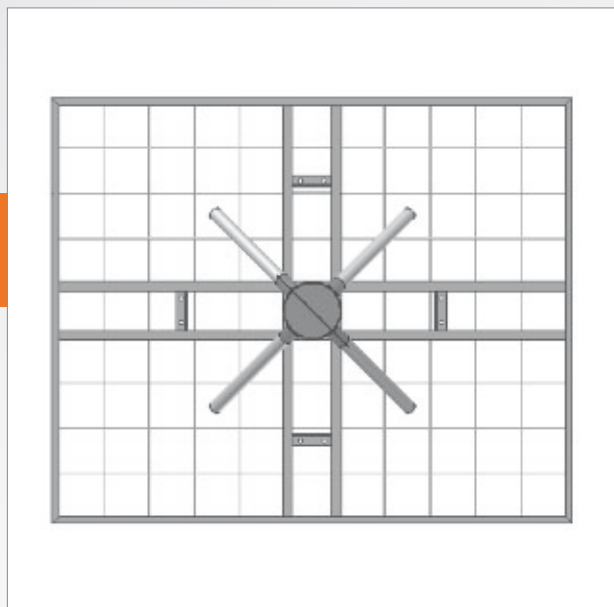
All dimensions are in millimeters

FMC-05

FM PANEL ANTENNA

FEATURES

- circular polarization
- broadband 87.5 ÷ 108 MHz
- 2.5 dB gain
- directional pattern
- suitable as a component in various arrays on triangular towers
- stainless steel dipoles



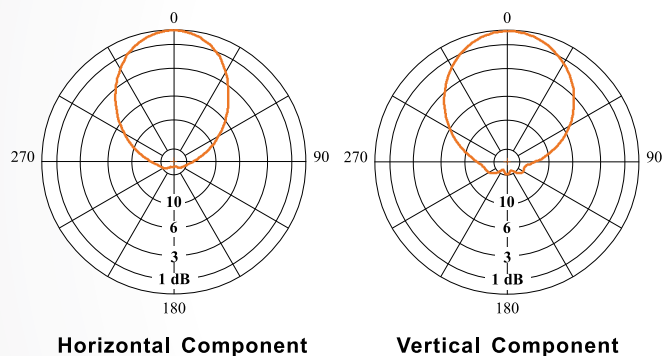
ELECTRICAL DATA

ANTENNA TYPE	FMC-05
FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	2 x 7/8" EIA
MAX POWER	10 kW (5 kW per dipole)
VSWR	≤ 1.15 (in circular polarization)
POLARIZATION	Circular
GAIN (referred to half wave dipole)	2.5 dB (Circular polarization) 5.5 dB (Linear polarization)
HALF POWER BEAMWIDTH	Horizontal component: ± 38° Vertical component: ± 42°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

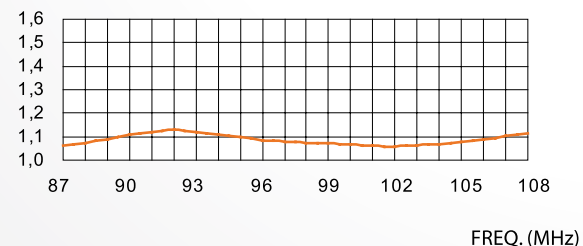
MECHANICAL DATA

DIMENSIONS mm (in)	2200 x 1800 x 1134 (86.61 x 70.87 x 44.65)
WEIGHT kg (lb)	82 (181)
WIND SURFACE m² (ft²)	1.73 (18.6) front 1.12 (12.1) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	2.14 (481) front 1.37 (308) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipoles (stainless steel) Internal parts (silver plated brass, polished brass) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast

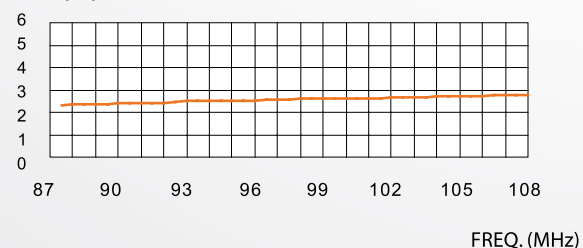
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



FMC-05

FM PANEL ANTENNA

FEATURES

- radiating systems with FMC-05 panel on triangular towers
- high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network
- broadband 87.5 ÷ 108 MHz



FMC-05
LONDON, ON (CANADA)

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.2 Throughout the frequency range (Lower figures for individual frequencies on request)
POLARIZATION	Circular / Elliptical on request
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves) Each half can accept full power

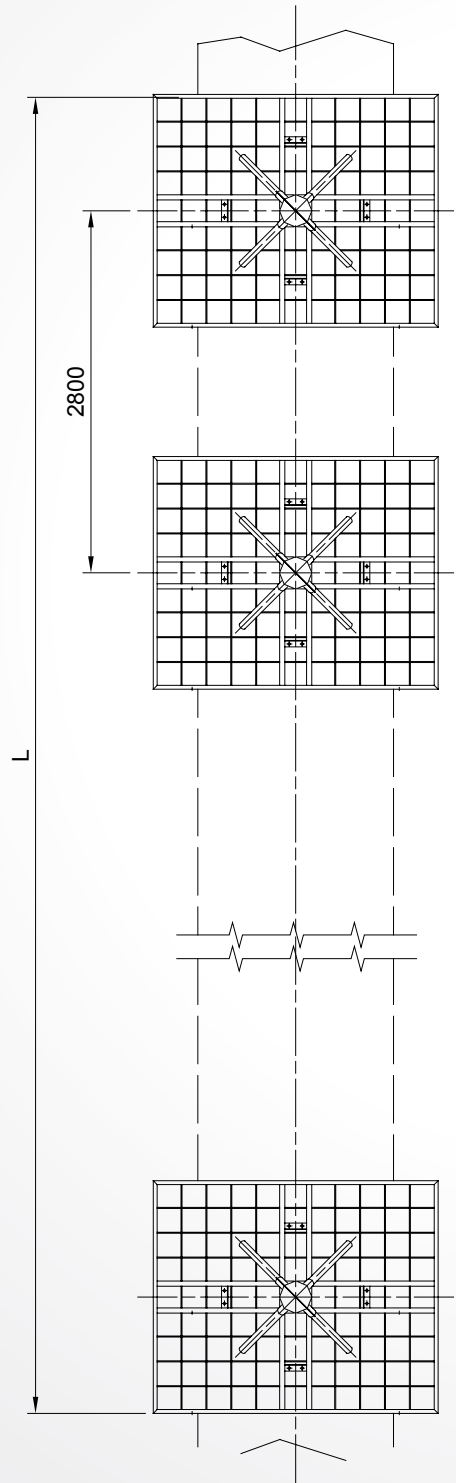
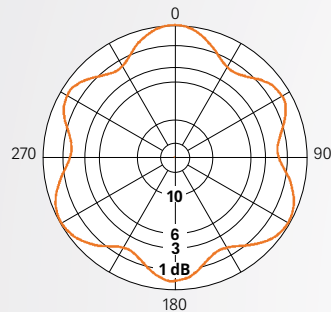
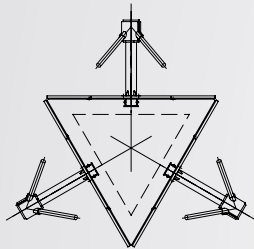
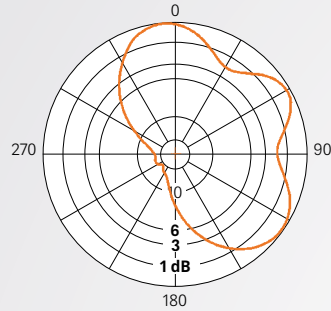
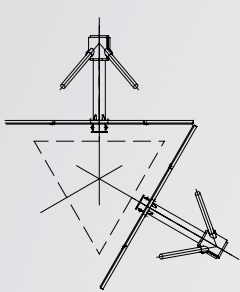
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

FMC-05

FM PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2 AND 3 FACES AT 98 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	2	-0.4	0.91	192 (423)	1.8	2.68 (602)
	3	-2.2	0.60	278 (613)	(5.9)	2.90 (652)
2	1	5.6	3.63	192 (423)	4.6	2.93 (659)
	2	2.6	1.82	364 (802)	(15.1)	5.37 (1207)
	3	0.8	1.20	586 (1292)		5.80 (1304)
4	1	8.6	7.24	364 (802)	10.2	5.87 (1320)
	2	5.6	3.63	788 (1737)	(33.5)	10.74 (2414)
	3	3.8	2.40	1112 (2451)		11.60 (2608)
6	1	10.6	11.48	586 (1292)	15.8	8.80 (1978)
	2	7.6	5.75	1112 (2451)	(51.8)	16.11 (3622)
	3	5.8	3.81	1698 (3743)		17.40 (3912)
8	1	11.8	15.14	788 (1737)	21.4	11.74 (2639)
	2	8.8	7.59	1526 (3364)	(70.2)	21.48 (4829)
	3	7.0	5.01	2264 (4991)		23.21 (5218)

(1) referred to half wave dipole. Losses of power distribution network not included.

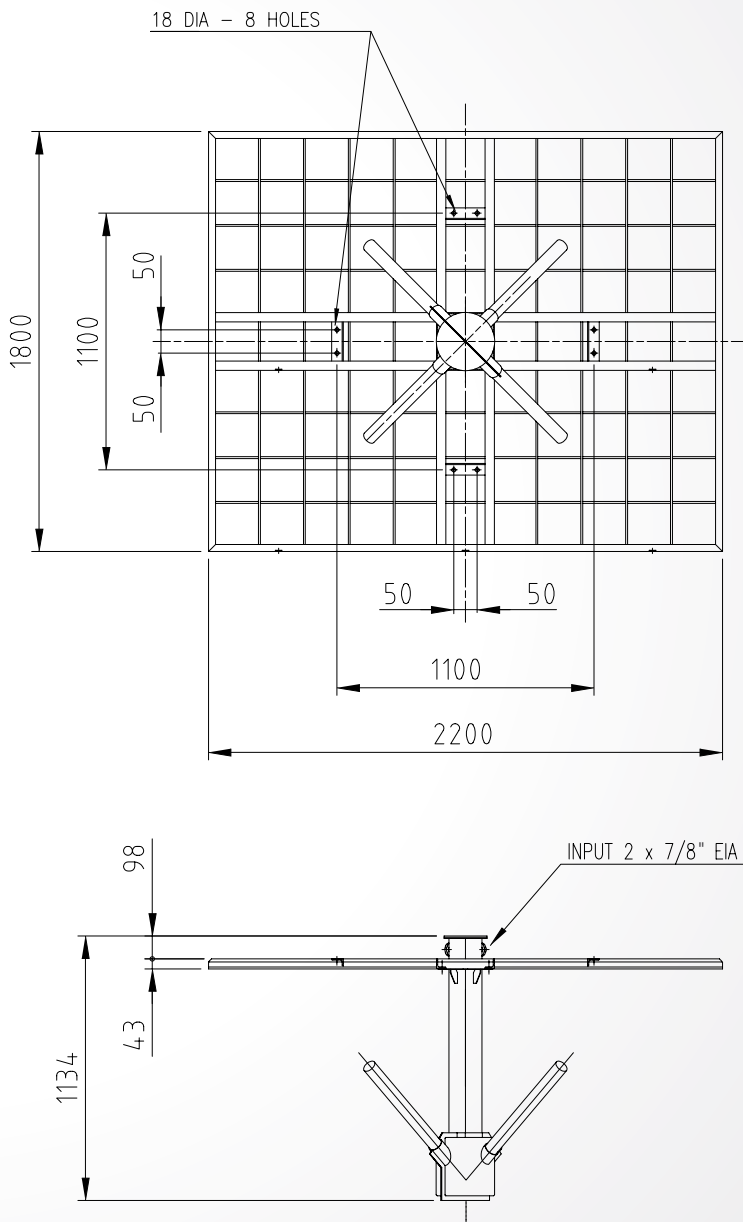
(2) without mounting hardware.

(3) v= 160 km/h (100 mph)

FMC-05

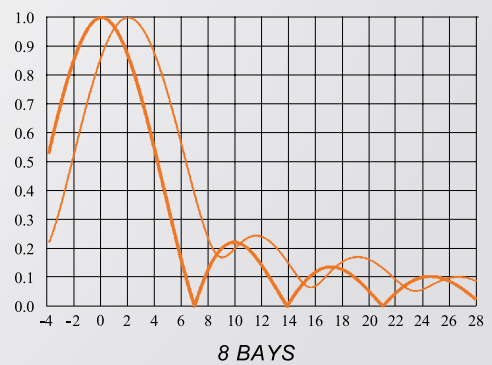
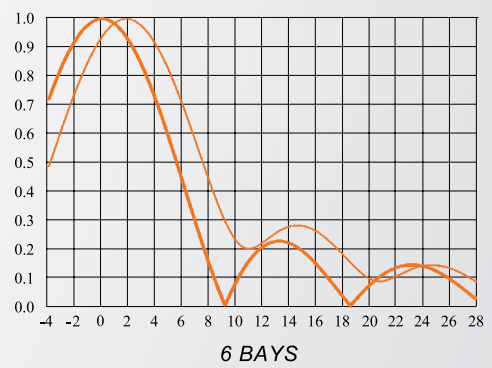
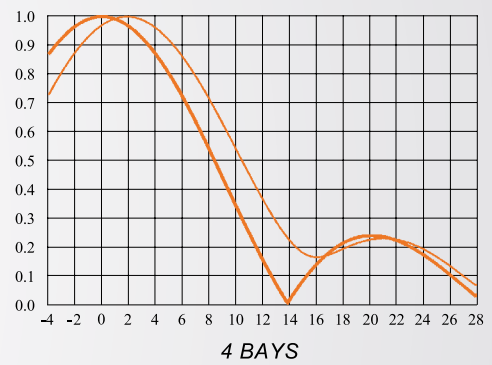
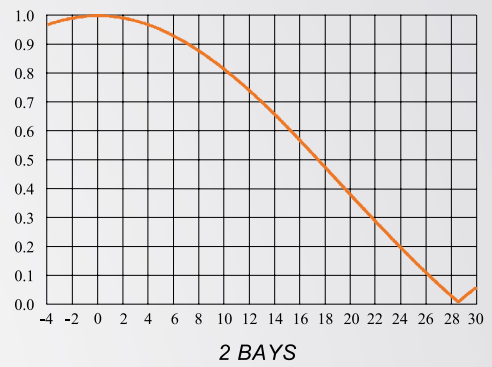
FM PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN

— Without null fill
— With null fill and beam tilt



All dimensions are in millimeters

FMC-06

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- circular/elliptical polarization
- broadband 87.5 ÷ 108 MHz



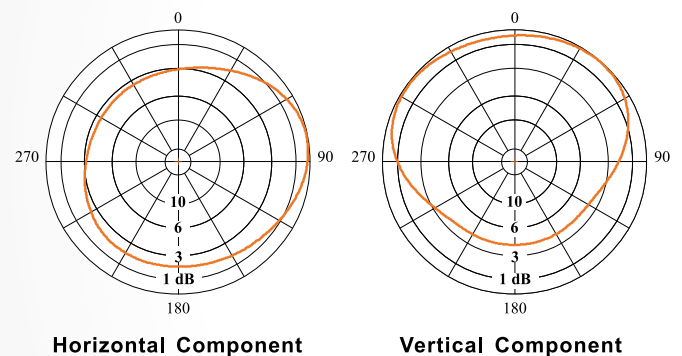
ELECTRICAL DATA

ANTENNA TYPE	FMC-06	FMC-06/P
FREQUENCY RANGE	87.5 ÷ 108 MHz	
IMPEDANCE	50 ohm	
CONNECTOR	7/8" EIA	1-5/8" EIA
MAX POWER	7.5 kW	12.5 kW
VSWR	≤ 1.4	
POLARIZATION	Circular/Elliptical	
GAIN (referred to half wave dipole)	-1.5 dB	
HALF POWER BEAMWIDTH	Omnidirectional ± 1.5 dB in free space Omnidirectional ± 2 dB with ø 100 pole	
LIGHTNING PROTECTION	All metal parts DC grounded	

MECHANICAL DATA

DIMENSIONS mm (in)	1550 x 846 x 846 (61.02 x 33.31 x 33.31)
WEIGHT kg (lb)	22.5 (49.6) 23.5 (51.8)
WIND SURFACE m² (ft²)	0.17 (1.83) front 0.38 (4.1) side
WIND LOAD kN (lbf)	0.21 (47.2) front 0.46 (103.4) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	brass, aluminium, stainless steel, hot dip galvanized steel (bracket) teflon, fiberglass (radome)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	With special pipe clamps ø 75 ÷ 150 (2.95 ÷ 5.9)

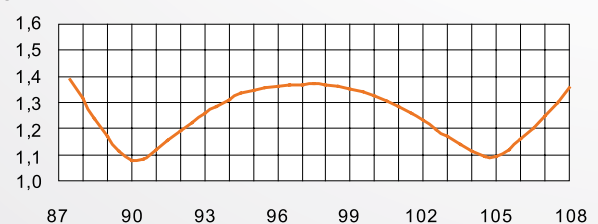
RADIATION PATTERNS (Mid Band)



Horizontal Component

Vertical Component

VSWR



FREQ. (MHz)

FMC-06

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- radiating systems with FMC-06 dipole
- omnidirectional patterns

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR (in the operating frequency)	≤ 1.35 without fine matcher ≤ 1.25 with one fine matcher ≤ 1.1 with two fine matchers
POLARIZATION	Circular/Elliptical
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

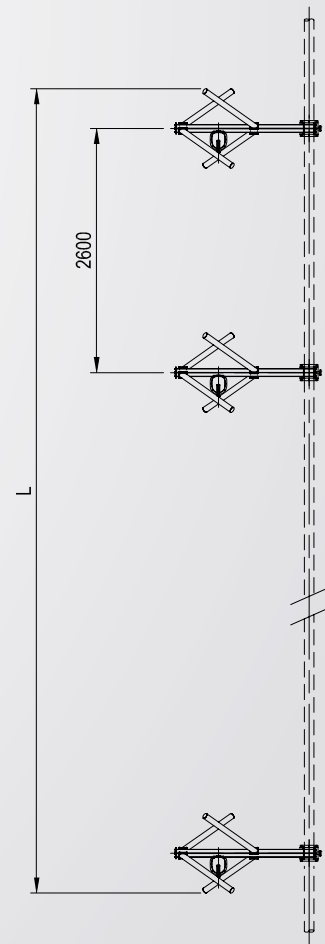
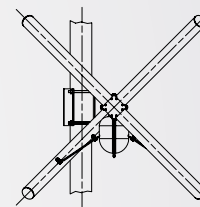
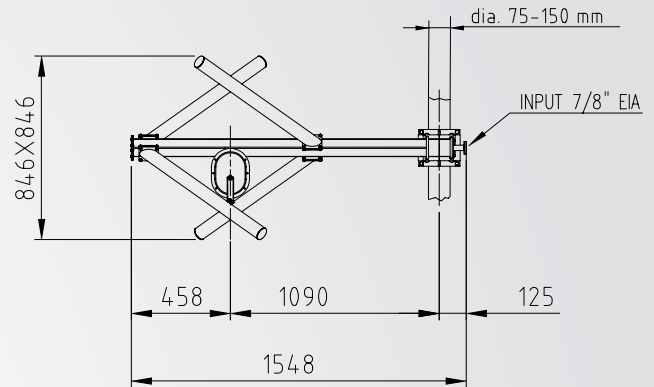
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	1.5	1.41	55 (121)	3.45 (11.3)	0.93 (209)
4	1	4.5	2.82	115 (254)	8.65 (28.4)	1.86 (418)
6	1	6.2	4.17	175 (386)	13.85 (45.4)	2.80 (629)
8	1	7.5	5.62	260 (573)	19.05 (62.5)	3.73 (839)
12	1	9.2	8.32	385 (849)	29.45 (96.6)	5.60 (1259)

(1) referred to half wave dipole. Losses of power distribution network not included.
 (2) without mounting hardware, for FMC-06 dipole
 (3) v= 160 km/h (100 mph)



All dimensions are in millimeters

FMC-06/R

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- circular/elliptical polarization
- broadband 87.5 ÷ 108 MHz



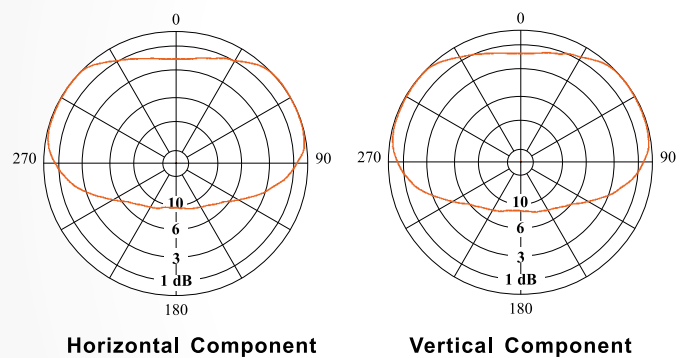
ELECTRICAL DATA

ANTENNA TYPE	FMC-06/R	FMC-06/P/R
FREQUENCY RANGE	87.5 ÷ 108 MHz	
IMPEDANCE	50 ohm	
CONNECTOR	7/8" EIA	1-5/8" EIA
MAX POWER	7.5 kW	12.5 kW
VSWR	≤ 1.4	
POLARIZATION	Circular/Elliptical	
GAIN (referred to half wave dipole)	0.5 dB	
LIGHTNING PROTECTION	All metal parts DC grounded	

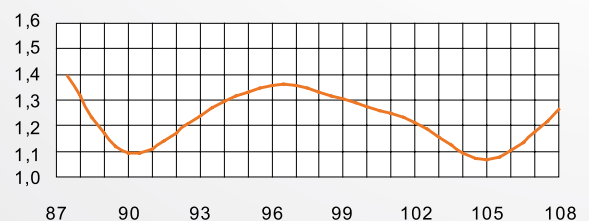
MECHANICAL DATA

DIMENSIONS mm (in)	2003 x 1200 x 1200 (78.86 x 47.24 x 47.24)
WEIGHT kg (lb)	38 (83.8) 39 (86)
WIND SURFACE m ² (ft ²)	0.34 (3.66) front 0.65 (7) side
WIND LOAD kN (lbf)	0.42 (94.4) front 0.80 (180) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	brass, aluminium, stainless steel, hot dip galvanized steel (bracket) teflon, fiberglass (radome)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	With special pipe clamps ø 75 ÷ 150 (2.95 ÷ 5.9)

RADIATION PATTERNS (Mid Band)



VSWR



FREQ. (MHz)

FMC-06/R

FM TOP OR SIDEMOUNT DIPOLE

FEATURES

- radiating systems with FMC-06/R dipole
- directional patterns

ELECTRICAL DATA

FREQUENCY RANGE	87.5 ÷ 108 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR (in the operating frequency)	≤ 1.35 without fine matcher ≤ 1.25 with one fine matcher ≤ 1.1 with two fine matchers
POLARIZATION	Circular/Elliptical
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

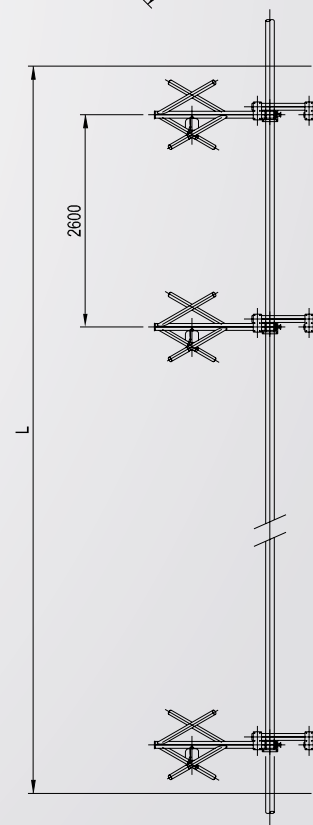
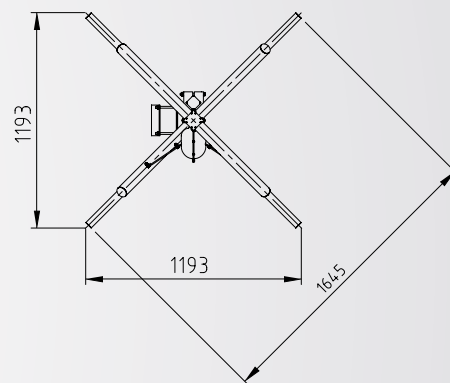
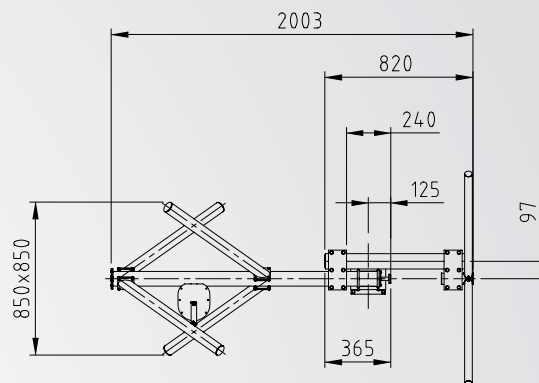
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	3.5	2.24	85 (187)	3.8 (12.5)	1.61 (362)
4	1	6.5	4.47	175 (386)	9.0 (29.5)	3.23 (726)
6	1	8.3	6.76	265 (584)	14.2 (46.6)	4.84 (1088)
8	1	9.5	9.81	380 (838)	19.4 (63.6)	6.46 (1452)
12	1	11.3	13.49	565 (1246)	29.8 (97.8)	9.69 (2178)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware, for FMC-06/R dipole

(3) $v = 160 \text{ km/h}$ (100 mph)



All dimensions are in millimeters

VHF ANTENNAS

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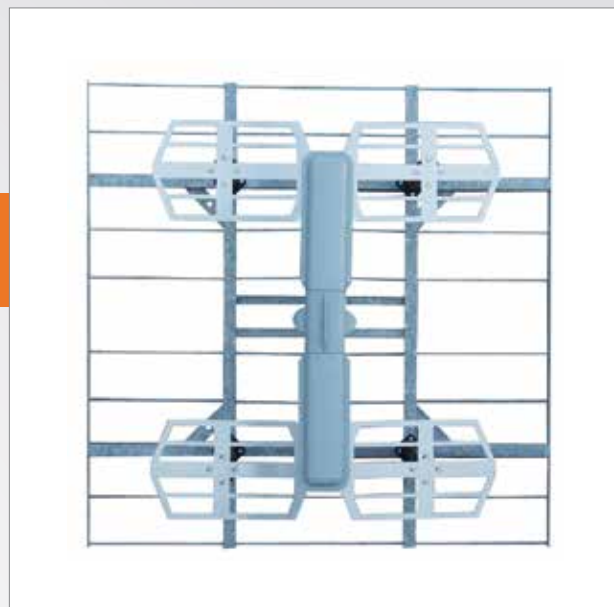
3VTV-02 H	41
3VTV-02 V	46
3VTV-02/ES H	50
3VTV-02/ES V	53
3VTV-04	56
3VTV-11	61



3VTV-02 (Horizontal polarization) VHF PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 174 ÷ 240 MHz
- 8 dB gain
- directional pattern
- suitable as a component in various arrays
- suitable also for vertical polarization



ELECTRICAL DATA

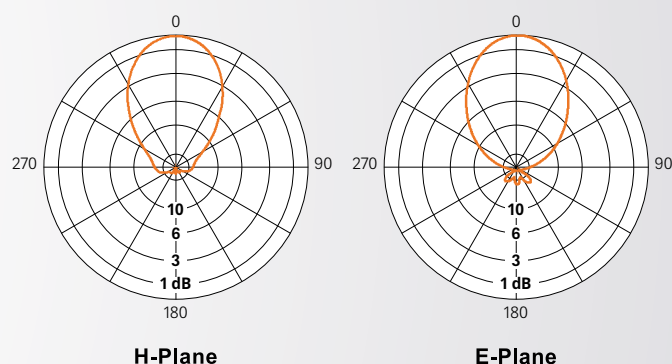
ANTENNA TYPE	3VTV-02
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	3 kW
VSWR	≤ 1.1 (174 ÷ 230 MHz) ≤ 1.2 (up to 240 MHz)*
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	8 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

* on request

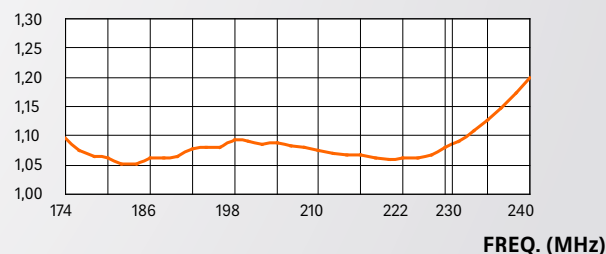
MECHANICAL DATA

DIMENSIONS mm (in)	1300 x 1300 x 535 (51.2 x 51.2 x 21.1)
WEIGHT kg (lb)	29 (64)
WIND SURFACE m² (ft²)	0.85 (9.1) front 0.51 (5.5) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.07 (241) front 0.63 (142) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipole (stainless steel) Internal parts (silver plated brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast or tower

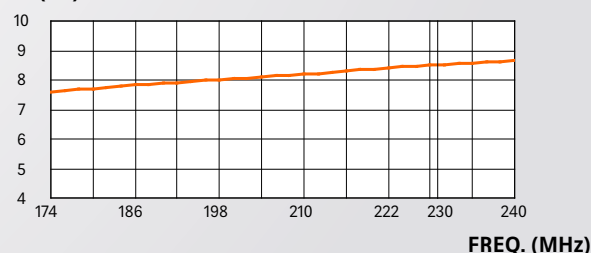
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



3VTV-02 (Horizontal polarization)

VHF PANEL ANTENNA

FEATURES

- radiating systems with 3VTV-02 panel
- high power antenna systems
- omnidirectional or directional patterns
- equal or unequal power split ratio distribution network

ELECTRICAL DATA

FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.1 in the operating channels or ≤ 1.15 Throughout the frequency range (Lower figures for individual channels on request)
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration with two equal halves. Each half can accept full power

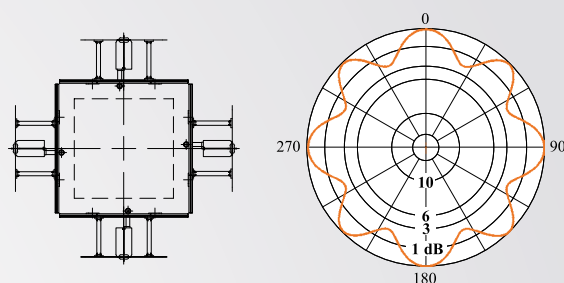
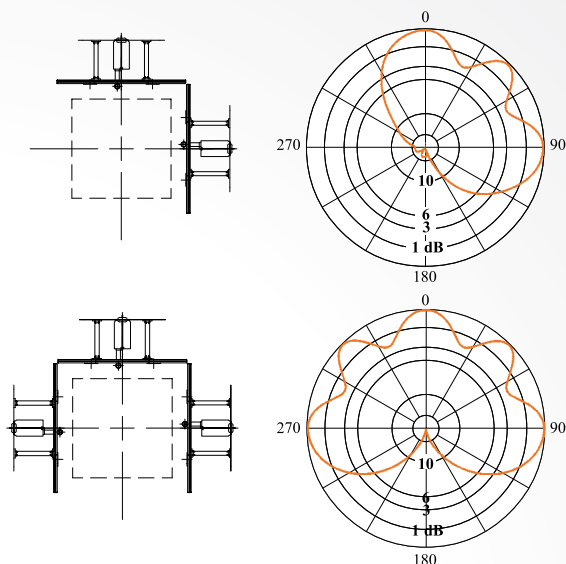
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

3VTV-02 (Horizontal polarization)

VHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 202 MHz



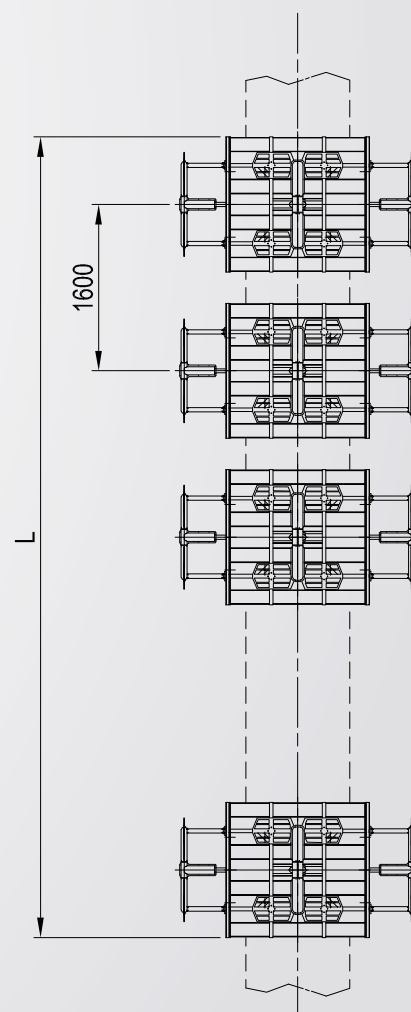
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	11	12.6	70 (154)		2.13 (479)
	2	8	6.3	135 (298)	2.9	3.60 (809)
	3	6.2	4.2	200 (441)	(9.5)	4.70 (1057)
	4	5	3.2	270 (595)		5.76 (1295)
4	1	14	25.1	135 (298)		4.27 (960)
	2	11	12.6	270 (595)	6.1	7.15 (1607)
	3	9.2	8.3	420 (926)	(20)	9.40 (2113)
	4	8	6.3	610 (1345)		11.54 (2594)
6	1	15.9	38.9	200 (441)		6.41 (1441)
	2	12.9	19.5	420 (926)	9.3	10.84 (2437)
	3	11.1	12.8	690 (1521)	(30.5)	14.10 (3170)
	4	9.9	9.8	860 (1896)		17.32 (3894)
8	1	17	50.1	270 (595)		8.55 (1922)
	2	14	25.1	610 (1345)	12.5	14.47 (3253)
	3	12.2	16.6	860 (1896)	(41)	18.80 (4226)
	4	11	12.6	1115 (2458)		23.12 (5198)
12	1	18.9	77.6	420 (926)		12.83 (2884)
	2	15.9	38.9	860 (1896)	18.9	21.72 (4883)
	3	14.1	25.7	1380 (3042)	(62)	28.16 (6331)
	4	12.9	19.5	1720 (3792)		34.65 (7790)
16	1	20	100	610 (1345)		17.11 (3846)
	2	17	50.1	1115 (2458)	25.3	28.92 (6501)
	3	15.2	33.1	1720 (3792)	(83)	37.57 (8446)
	4	14	25.1	2225 (4905)		46.19 (10384)

(1) referred to half wave dipole. Losses of power distribution network not included.

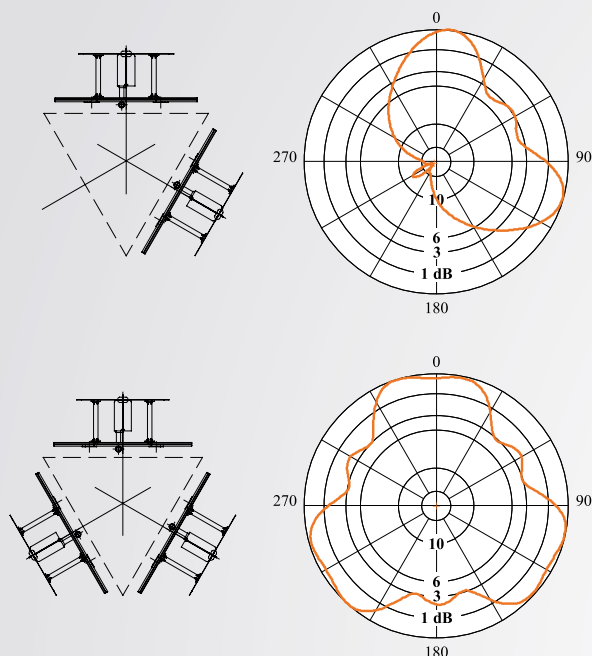
(2) without mounting hardware.

(3) v= 160 km/h (100 mph).



3VTV-02 (Horizontal polarization) VHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2 AND 3 FACES AT 202 MHz



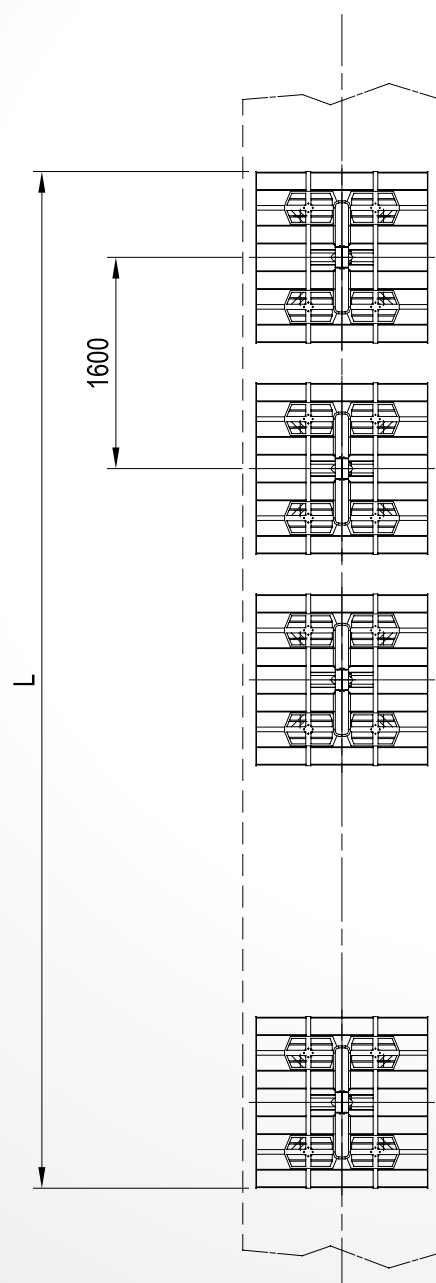
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	10	10	70 (154)	2.9 (9.5)	2.03 (456)
	2	7	5	135 (298)		3.05 (686)
	3	5.2	3.3	200 (441)		4.30 (967)
4	1	13	20	135 (298)	6.1 (20)	4.07 (915)
	2	10	10	270 (595)		6.08 (1367)
	3	8.2	6.6	420 (926)		8.60 (1933)
6	1	14.9	30.9	200 (441)	9.3 (30.5)	6.10 (1371)
	2	11.9	15.5	420 (926)		9.13 (2053)
	3	10.1	10.2	690 (1521)		12.90 (2900)
8	1	16	40	270 (595)	12.5 (41)	8.14 (1830)
	2	13	20	610 (1345)		12.18 (2738)
	3	11.2	13.2	860 (1896)		17.20 (3867)
12	1	17.9	61.6	420 (926)	18.9 (62)	12.22 (2747)
	2	14.9	30.9	860 (1896)		18.27 (4107)
	3	13.1	20.4	1380 (3042)		25.82 (5805)
16	1	19	80	610 (1345)	25.3 (83)	16.29 (3662)
	2	16	40	1115 (2458)		32.40 (7284)
	3	14.2	26.3	1720 (3792)		34.41 (7736)

(1) referred to half wave dipole. Losses of power distribution network not included.

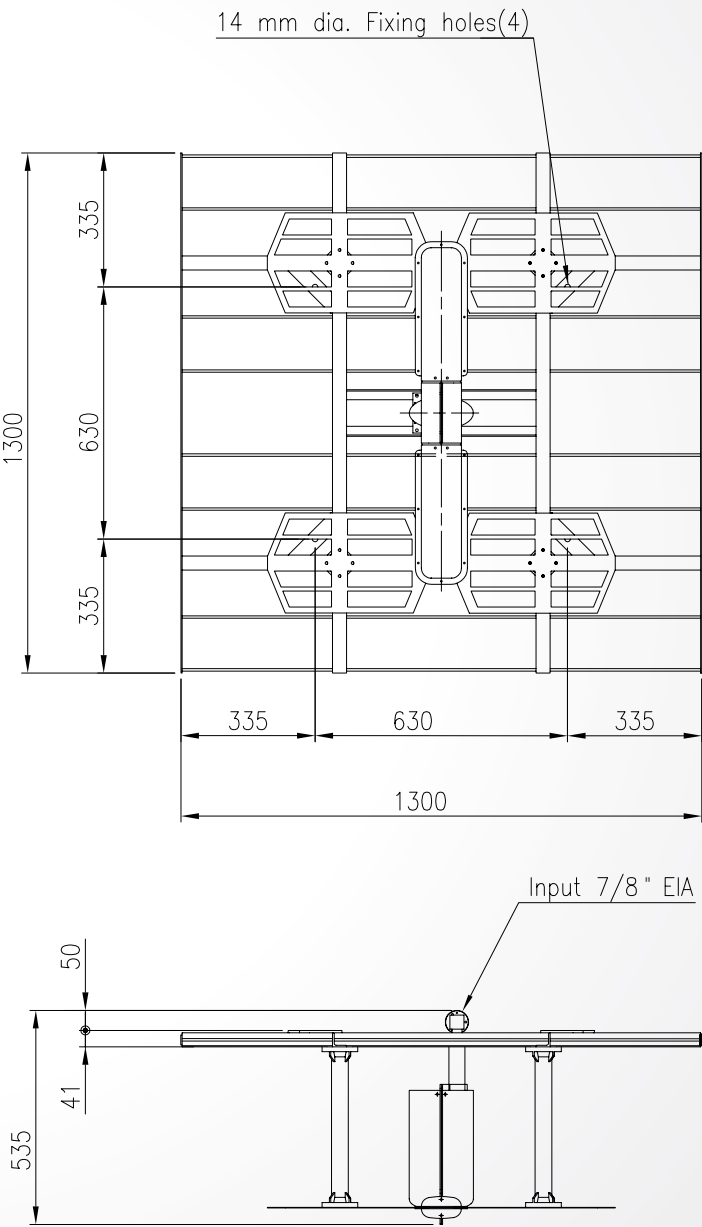
(2) without mounting hardware

(3) v= 160 km/h (100 mph)

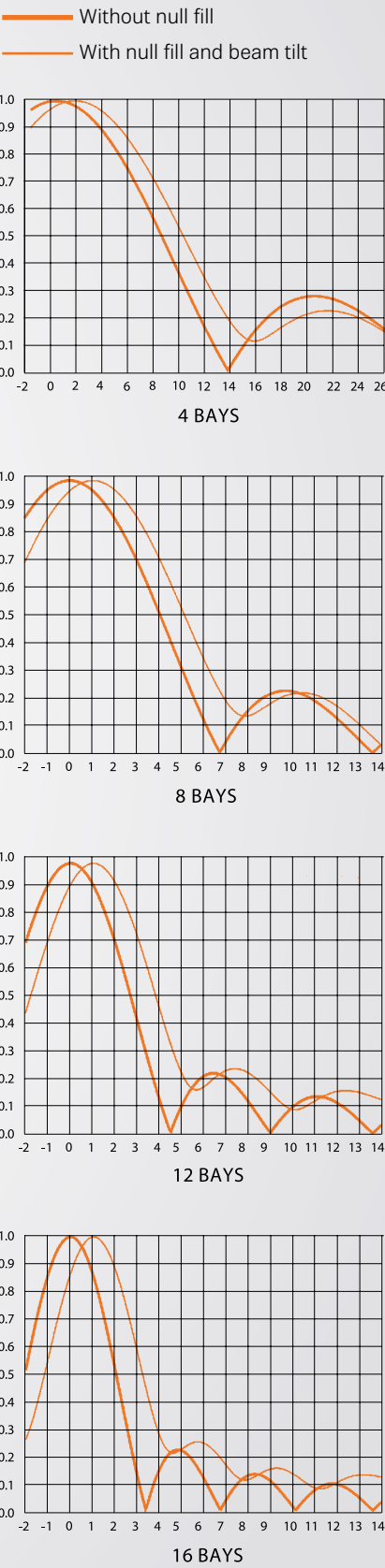


3VTV-02 (Horizontal polarization) VHF PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN



All dimensions are in millimeters

3VTV-02 (Vertical polarization) VHF PANEL ANTENNA

FEATURES

- vertical polarization
- broadband 174 ÷ 240 MHz
- 8 dB gain
- directional pattern
- suitable as a component in various arrays
- suitable also for horizontal polarization



ELECTRICAL DATA

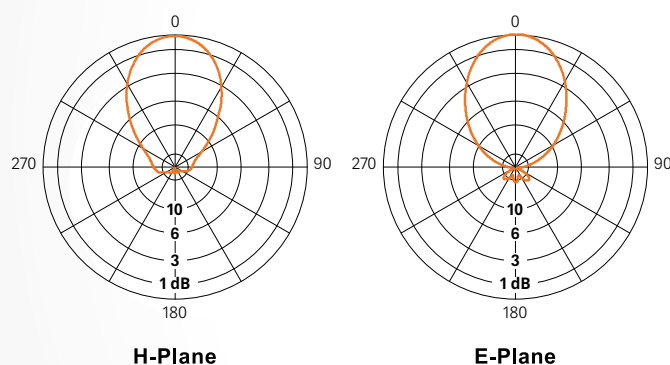
ANTENNA TYPE	3VTV-02
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	3 kW
VSWR	≤ 1.1 (174 ÷ 230 MHz) ≤ 1.2 (up to 240 MHz)*
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	8 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

* on request

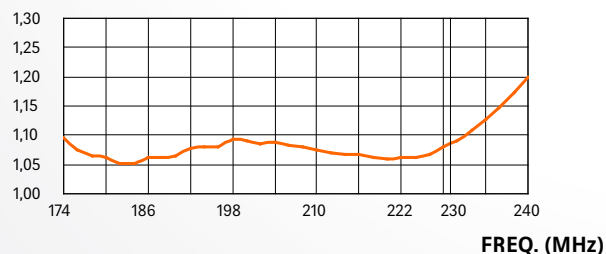
MECHANICAL DATA

DIMENSIONS mm (in)	1300 x 1300 x 535 (51.2 x 51.2 x 21.1)
WEIGHT kg (lb)	29 (64)
WIND SURFACE m ² (ft ²)	0.85 (9.1) front 0.51 (5.5) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.07 (241) front 0.63 (142) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipole (stainless steel) Internal parts (silver plated brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast or tower

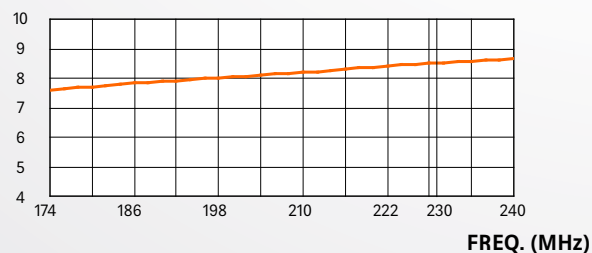
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



3VTV-02 (Vertical polarization) VHF PANEL ANTENNA

FEATURES

- radiating systems with 3VTV-02 panel
- high power antenna systems
- omnidirectional or directional patterns
- equal or unequal power split ratio distribution network



3VTV-02V/8 (8x1)
MONTE FAITO, ITALY

ELECTRICAL DATA

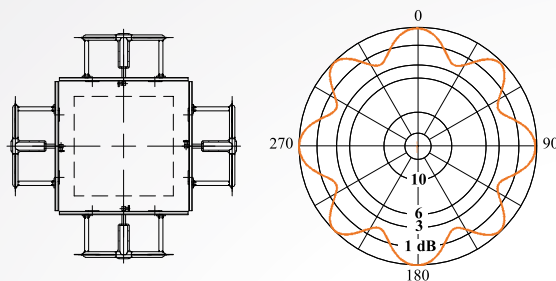
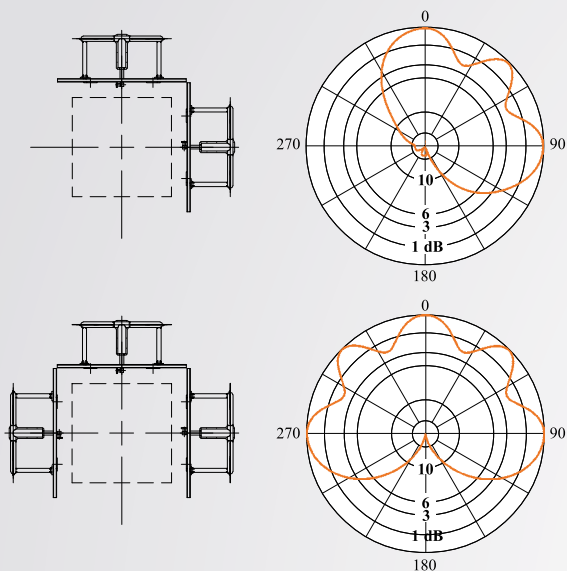
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.1 in the operating channels or ≤ 1.15 Throughout the frequency range (Lower figures for individual channels on request)
POLARIZATION	Vertical
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration with two equal halves Each half can accept full power

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

3VTV-02 (Vertical polarization) VHF PANEL ANTENNA

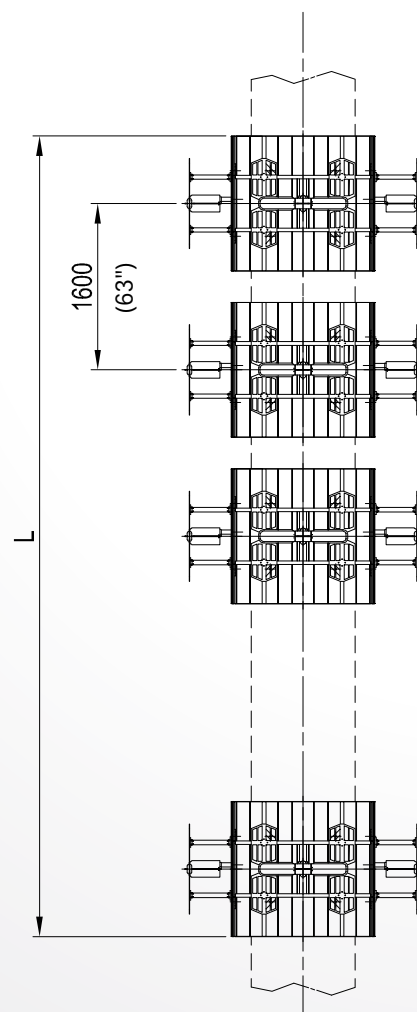
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 202 MHz



TECHNICAL DATA

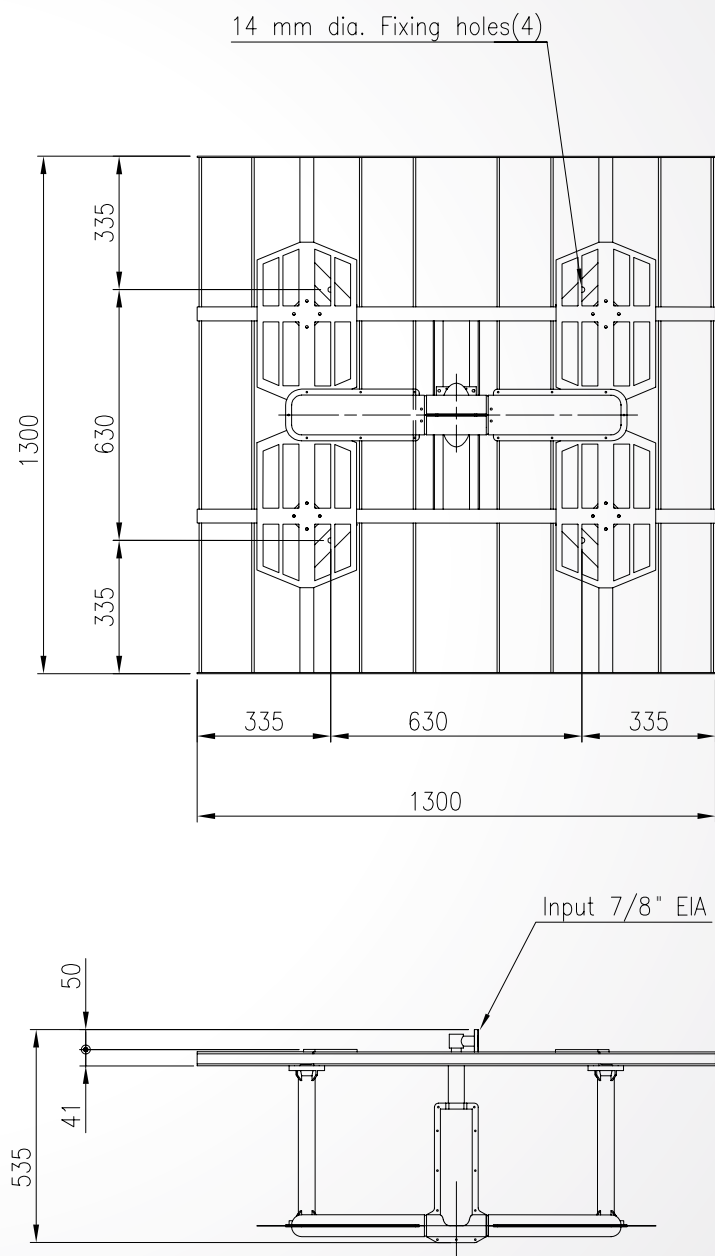
NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	11	12.6	70 (154)		2.13 (479)
	2	8	6.3	135 (298)	2.9	3.60 (809)
	3	6.2	4.2	200 (441)	(9.5)	4.70 (1057)
	4	5	3.2	270 (595)		5.76 (1295)
4	1	14	25.1	135 (298)		4.27 (960)
	2	11	12.6	270 (595)	6.1	7.15 (1607)
	3	9.2	8.3	420 (926)	(20)	9.40 (2113)
	4	8	6.3	610 (1345)		11.54 (2594)
6	1	15.9	38.9	200 (441)		6.41 (1441)
	2	12.9	19.5	420 (926)	9.3	10.84 (2437)
	3	11.1	12.8	690 (1521)	(30.5)	14.10 (3170)
	4	9.9	9.8	860 (1896)		17.32 (3894)
8	1	17	50.1	270 (595)		8.55 (1922)
	2	14	25.1	610 (1345)	12.5	14.47 (3253)
	3	12.2	16.6	860 (1896)	(41)	18.80 (4226)
	4	11	12.6	1115 (2458)		23.12 (5198)
12	1	18.9	77.6	420 (926)		12.83 (2884)
	2	15.9	38.9	860 (1896)	18.9	21.72 (4883)
	3	14.1	25.7	1380 (3042)	(62)	28.16 (6331)
	4	12.9	19.5	1720 (3792)		34.65 (7790)
16	1	20	100	610 (1345)		17.11 (3846)
	2	17	50.1	1115 (2458)	25.3	28.92 (6501)
	3	15.2	33.1	1720 (3792)	(83)	37.57 (8446)
	4	14	25.1	2225 (4905)		46.19 (10384)

(1) referred to half wave dipole. Losses of power distribution network not included.
 (2) without mounting hardware
 (3) v= 160 km/h (100 mph)



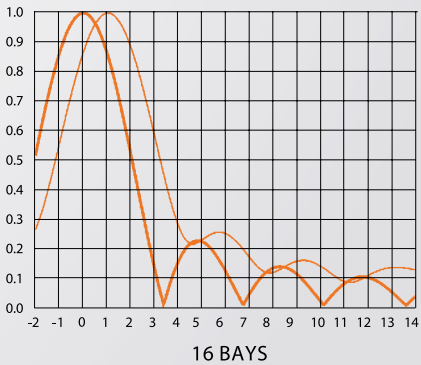
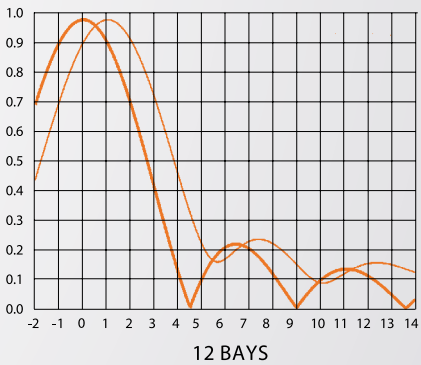
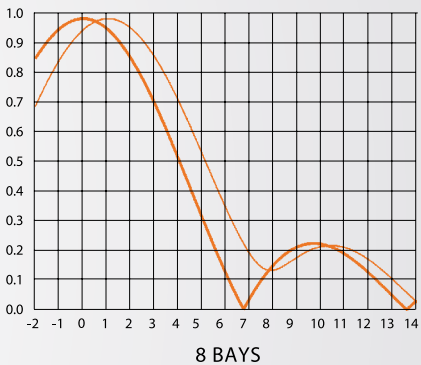
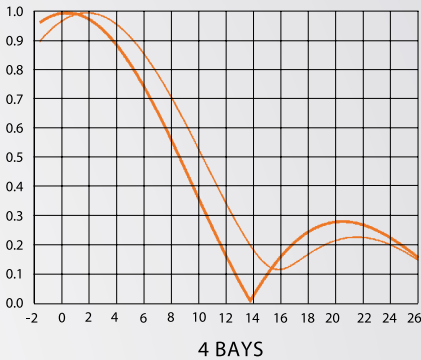
3VTV-02 (Vertical polarization) VHF PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN

— Without null fill
— With null fill and beam tilt



All dimensions are in millimeters

3VTV-02/ES (Horizontal polarization) VHF PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 174 ÷ 240 MHz
- 8 dB gain
- directional pattern
- suitable as a component in various arrays
- suitable also for vertical polarization



ELECTRICAL DATA

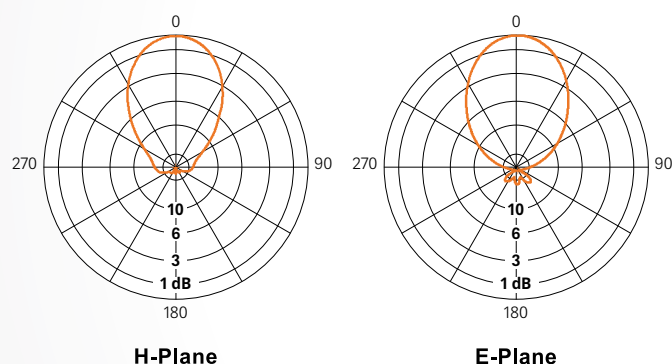
ANTENNA TYPE	3VTV-02/ES
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	3 kW
VSWR	≤ 1.1 (174 ÷ 230 MHz) ≤ 1.2 (up to 240 MHz)*
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	8 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

* on request

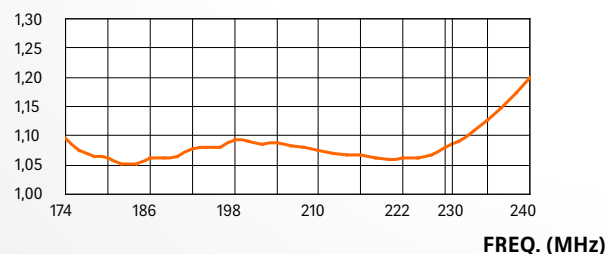
MECHANICAL DATA

DIMENSIONS mm (in)	1300 x 1300 x 513 (51.2 x 51.2 x 20.2)
WEIGHT kg (lb)	27 (60)
WIND SURFACE m ² (ft ²)	0.75 (8.1) front 0.43 (4.6) side
WIND LOAD kN (lbf)	0.93 (209) front 0.53 (119) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipole (stainless steel) Internal parts (silver plated brass, deoxidized aluminium)
MOUNTING	Directly on supporting mast or tower

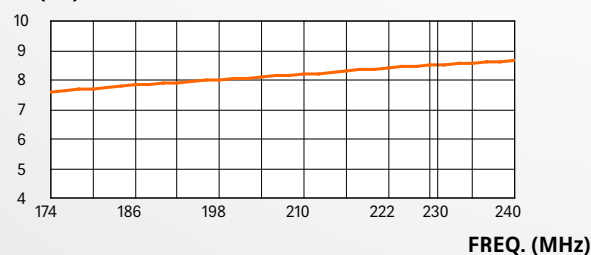
RADIATION PATTERNS (Mid Band)



VSWR



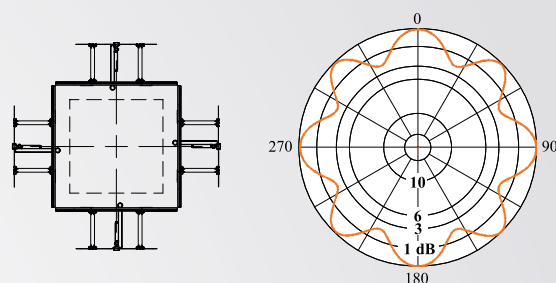
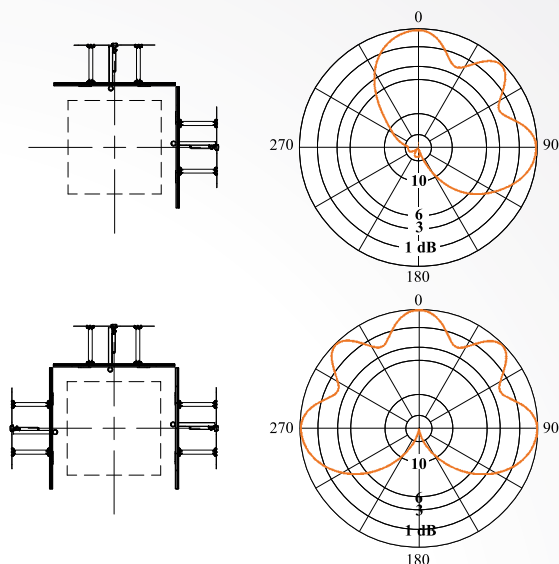
GAIN (dB)



3VTV-02/ES (Horizontal polarization)

VHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 202 MHz



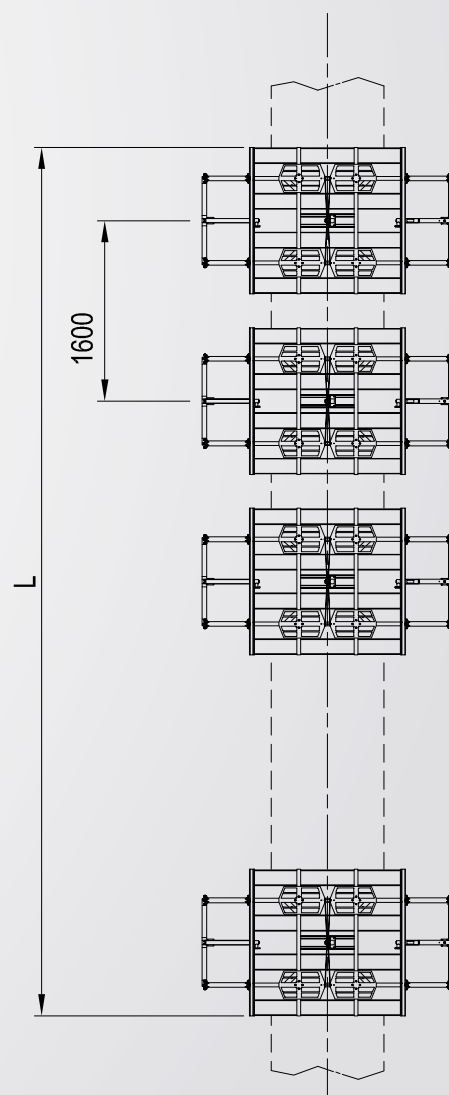
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	11	12.6	66 (146)		1.85 (416)
	2	8	6.3	127 (280)	2.9	3.12 (701)
	3	6.2	4.2	188 (414)	(9.5)	4.10 (922)
	4	5	3.2	254 (560)		5.0 (1124)
4	1	14	25.1	127 (280)		3.7 (832)
	2	11	12.6	254 (560)	6.1	6.2 (1394)
	3	9.2	8.3	396 (873)	(20)	8.17 (1837)
	4	8	6.3	578 (1274)		10 (2248)
6	1	15.9	38.9	188 (414)		5.57 (1252)
	2	12.9	19.5	396 (873)	9.3	9.42 (2118)
	3	11.1	12.8	654 (1442)	(30.5)	12.25 (2754)
	4	9.9	9.8	812 (1790)		16.18 (3637)
8	1	17	50.1	254 (560)		7.43 (1670)
	2	14	25.1	578 (1274)	12.5	12.57 (2826)
	3	12.2	16.6	812 (1790)	(41)	16.34 (3673)
	4	11	12.6	1050 (2315)		20.1 (4519)
12	1	18.9	77.6	396 (873)		11.15 (2507)
	2	15.9	38.9	812 (1790)	18.9	18.9 (4249)
	3	14.1	25.7	1310 (2888)	(62)	24.5 (5508)
	4	12.9	19.5	1625 (3582)		30.1 (6767)
16	1	20	100	578 (1274)		14.9 (3350)
	2	17	50.1	1050 (2315)	25.3	25.1 (5643)
	3	15.2	33.1	1625 (3582)	(83)	32.65 (7340)
	4	14	25.1	2100 (4630)		45.96 (10332)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware.

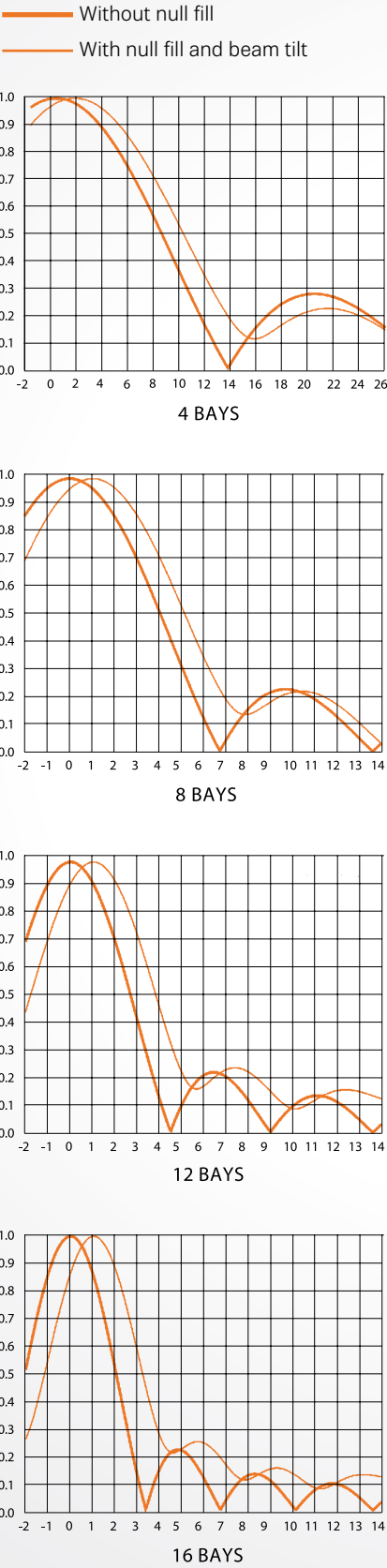
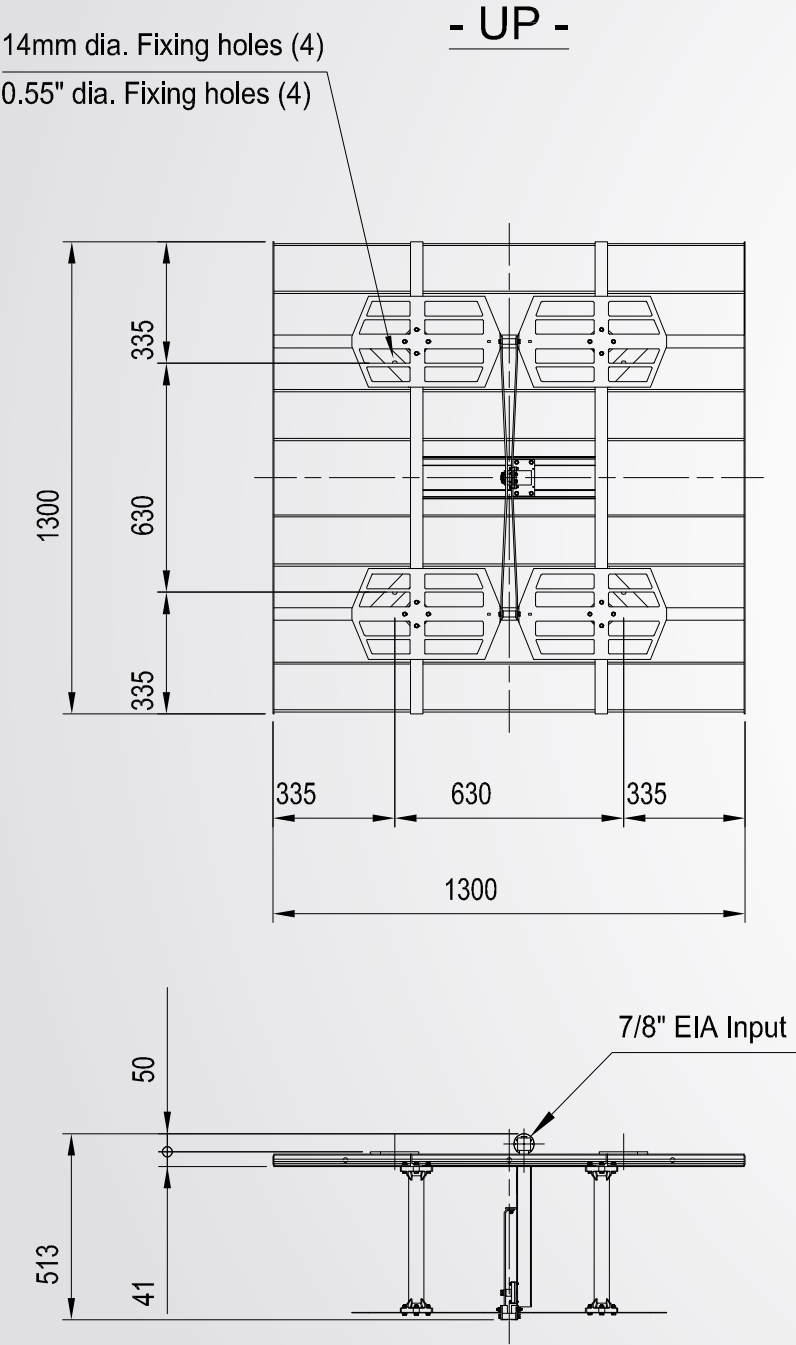
(3) v= 160 km/h (100 mph).



3VTV-02/ES (Horizontal polarization) VHF PANEL ANTENNA

DIMENSIONAL DETAILS

VERTICAL PATTERN



All dimensions are in millimeters

3VTV-02/ES (Vertical polarization) VHF PANEL ANTENNA

FEATURES

- vertical polarization
- broadband 174 ÷ 240 MHz
- 8 dB gain
- directional pattern
- suitable as a component in various arrays
- suitable also for horizontal polarization



ELECTRICAL DATA

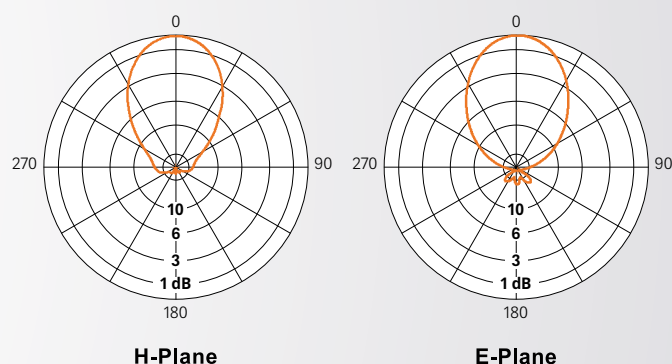
ANTENNA TYPE	3VTV-02/ES
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	3 kW
VSWR	≤ 1.1 (174 ÷ 230 MHz) ≤ 1.2 (up to 240 MHz)*
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	8 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 30°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

* on request

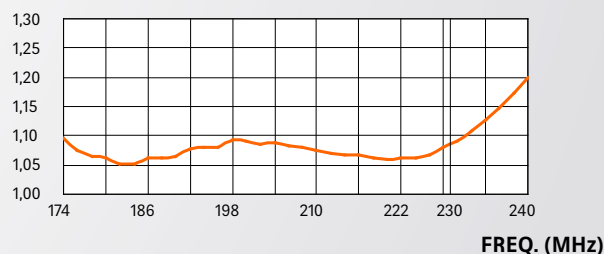
MECHANICAL DATA

DIMENSIONS mm (in)	1300x1300x513 (51.2x51.2x20.2)
WEIGHT kg (lb)	27 (60)
WIND SURFACE m ² (ft ²)	0.75 (8.1) front 0.43 (4.6) side
WIND LOAD kN (lbf)	0.93 (209) front 0.53 (119) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipole (stainless steel) Internal parts (silver plated brass, deoxidized aluminium)
MOUNTING	Directly on supporting mast or tower

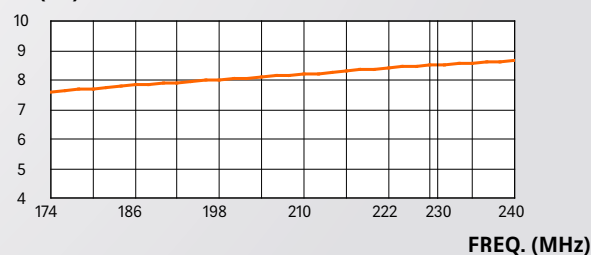
RADIATION PATTERNS (Mid Band)



VSWR

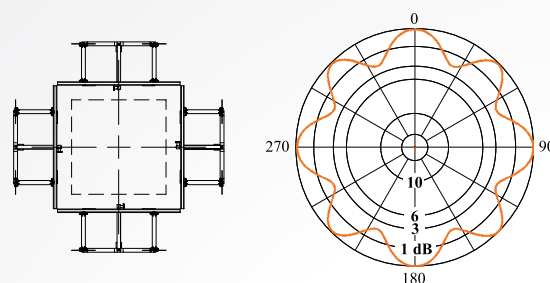
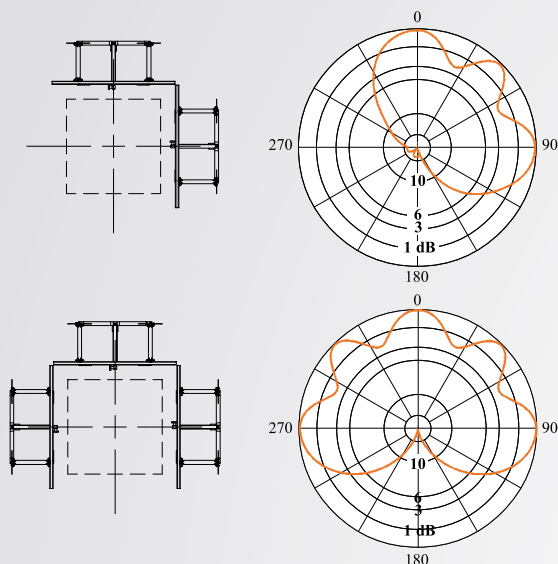


GAIN (dB)



3VTV-02/ES (Vertical polarization) VHF PANEL ANTENNA

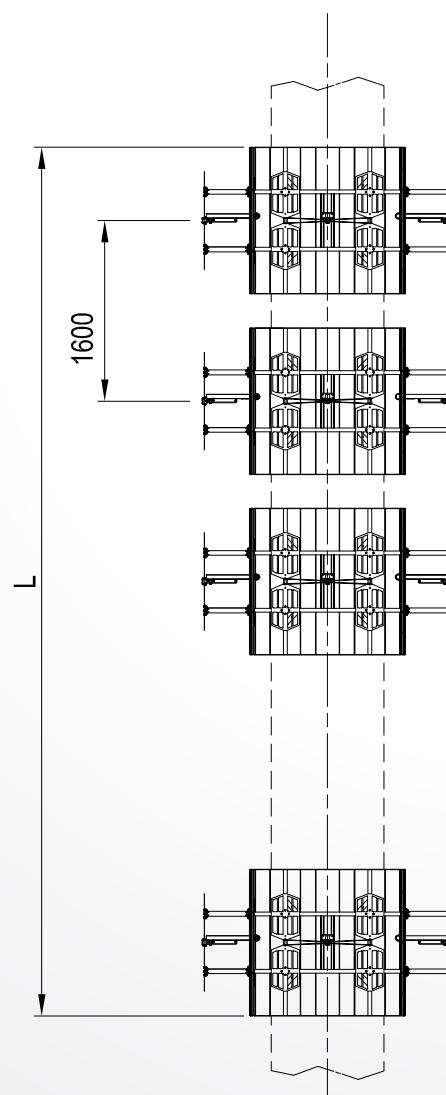
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 202 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	11	12.6	66 (146)	2.9 (9.5)	1.85 (416)
	2	8	6.3	127 (280)		3.12 (701)
	3	6.2	4.2	188 (414)		4.10 (922)
	4	5	3.2	254 (560)		5.0 (1124)
4	1	14	25.1	127 (280)	6.1 (20)	3.7 (832)
	2	11	12.6	254 (560)		6.2 (1394)
	3	9.2	8.3	396 (873)		8.17 (1837)
	4	8	6.3	578 (1274)		10 (2248)
6	1	15.9	38.9	188 (414)	9.3 (30.5)	5.57 (1252)
	2	12.9	19.5	396 (873)		9.42 (2118)
	3	11.1	12.8	654 (1442)		12.25 (2754)
	4	9.9	9.8	812 (1790)		16.18 (3637)
8	1	17	50.1	254 (560)	12.5 (41)	7.43 (1670)
	2	14	25.1	578 (1274)		12.57 (2826)
	3	12.2	16.6	812 (1790)		16.34 (3673)
	4	11	12.6	1050 (2315)		20.1 (4519)
12	1	18.9	77.6	396 (873)	18.9 (62)	11.15 (2507)
	2	15.9	38.9	812 (1790)		18.9 (4249)
	3	14.1	25.7	1310 (2888)		24.5 (5508)
	4	12.9	19.5	1625 (3582)		30.1 (6767)
16	1	20	100	578 (1274)	25.3 (83)	14.9 (3350)
	2	17	50.1	1050 (2315)		25.1 (5643)
	3	15.2	33.1	1625 (3582)		32.65 (7340)
	4	14	25.1	2100 (4630)		45.96 (10332)

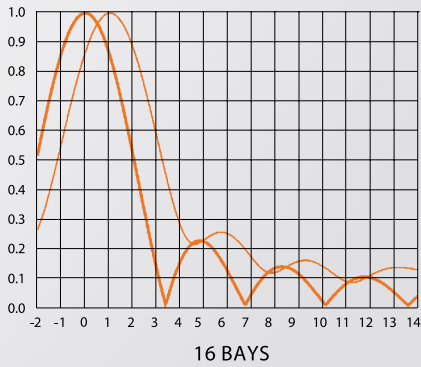
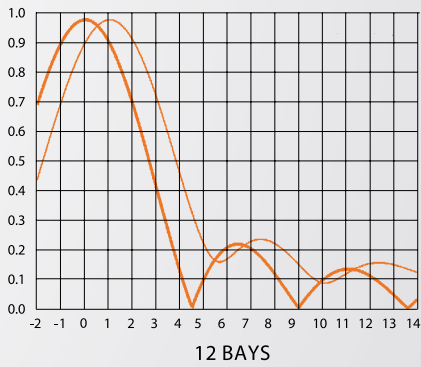
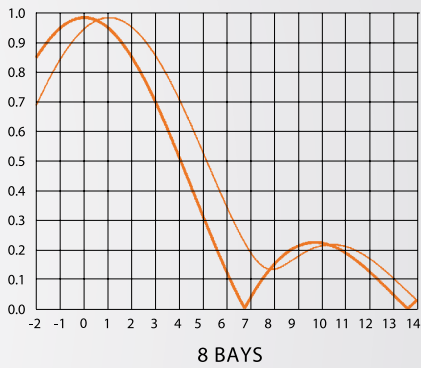
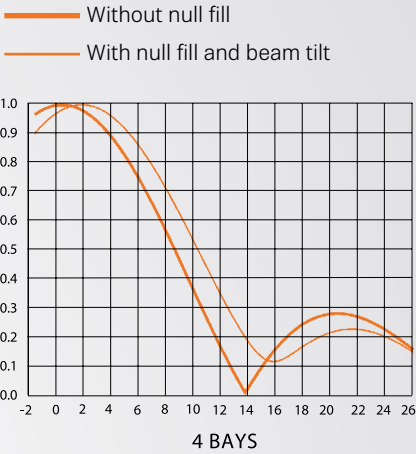
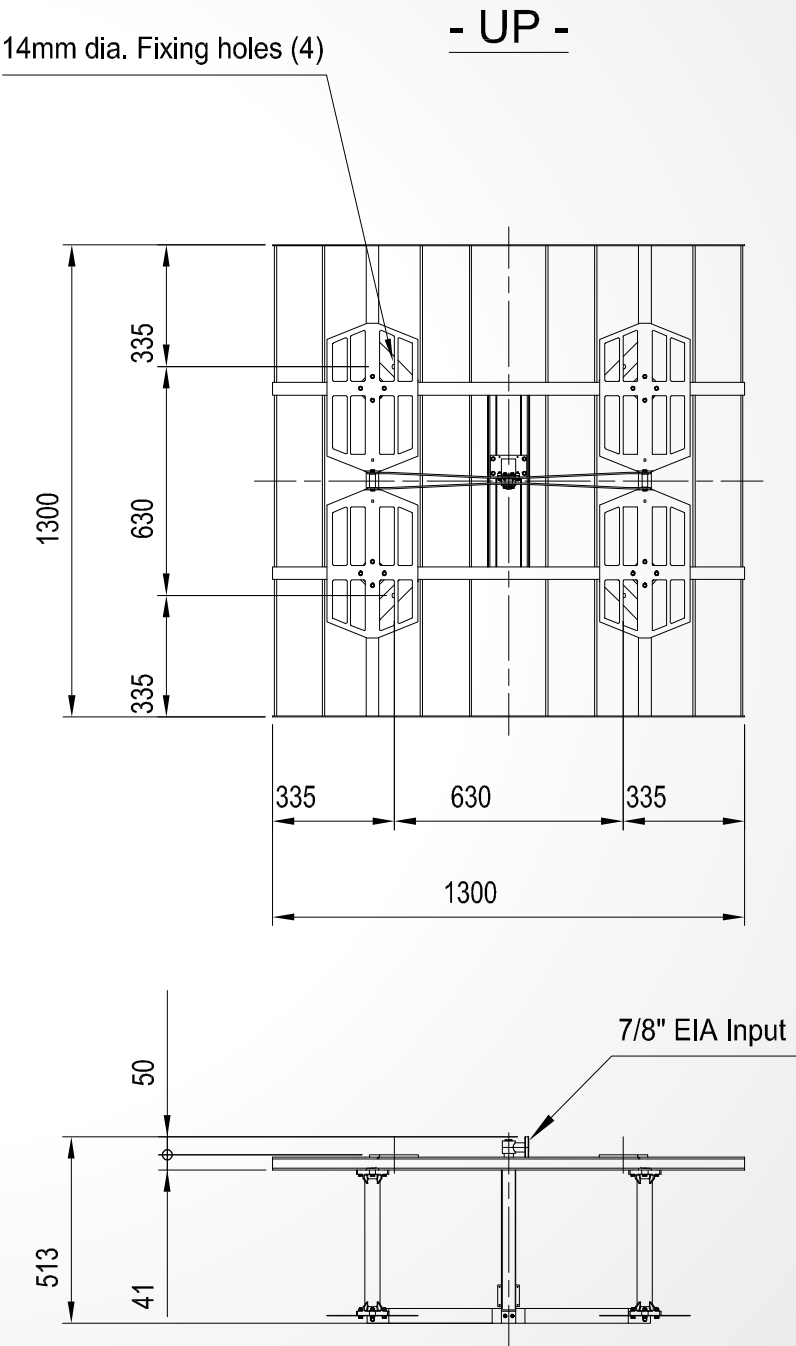
(1) referred to half wave dipole. Losses of power distribution network not included.
(2) without mounting hardware.
(3) v= 160 km/h (100 mph).



3VTV-02/ES (Vertical polarization) VHF PANEL ANTENNA

DIMENSIONAL DETAILS

VERTICAL PATTERN



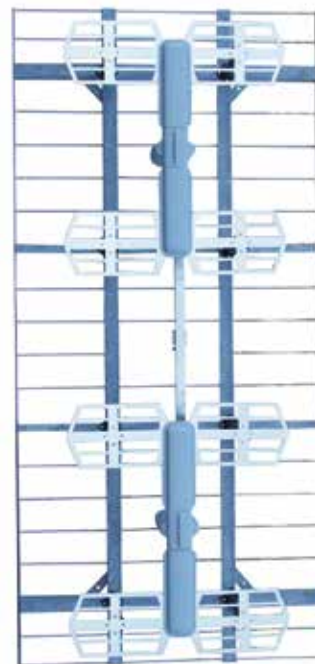
All dimensions are in millimeters

3VTV-04

VHF PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 174 ÷ 230 MHz
- 11 dB gain
- directional pattern
- suitable as a component in various arrays



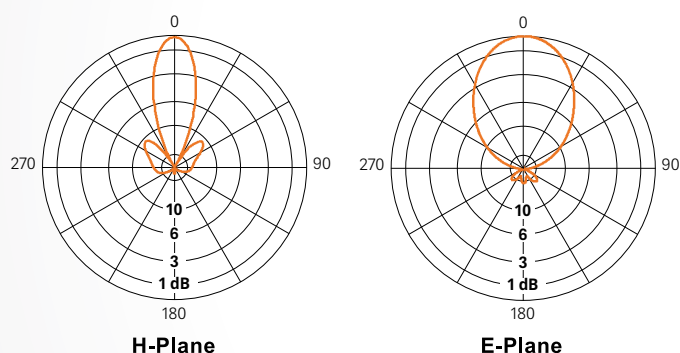
ELECTRICAL DATA

ANTENNA TYPE	3VTV-04
FREQUENCY RANGE	174 ÷ 230 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	3 kW
VSWR	≤ 1.1
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	11 dB
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 13°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

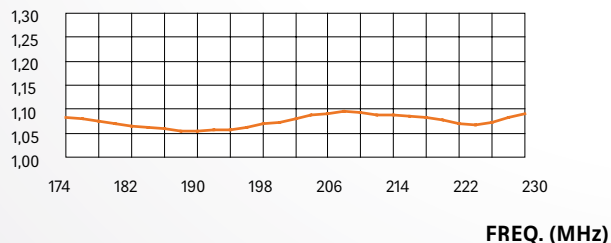
MECHANICAL DATA

DIMENSIONS mm (in)	2800 x 1300 x 520 (110.2 x 51.2 x 20.5)
WEIGHT kg (lb)	79 (174)
WIND SURFACE m ² (ft ²)	2.24 (24.1) front 1.54 (16.6) side
WIND LOAD kN (lbf) at 160 km/h (100 mph)	2.76 (620) front 1.90 (427) side
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Reflector (hot dip galvanized steel) Dipole (stainless steel) Internal parts (silver plated brass, deoxidized aluminium) Radome (fiberglass)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING	Directly on supporting mast or tower

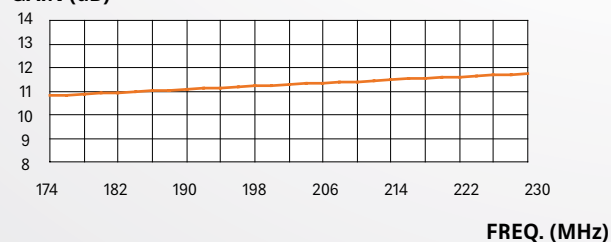
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



3VTV-04

VHF PANEL ANTENNA

FEATURES

- radiating systems with 3VTV-04 panel
- high power antenna systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network



3VTV-04/16 (4x4) in TURKEY

ELECTRICAL DATA

FREQUENCY RANGE	174 ÷ 230 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.1 Throughout the frequency range (Lower figures for individual channels on request)
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

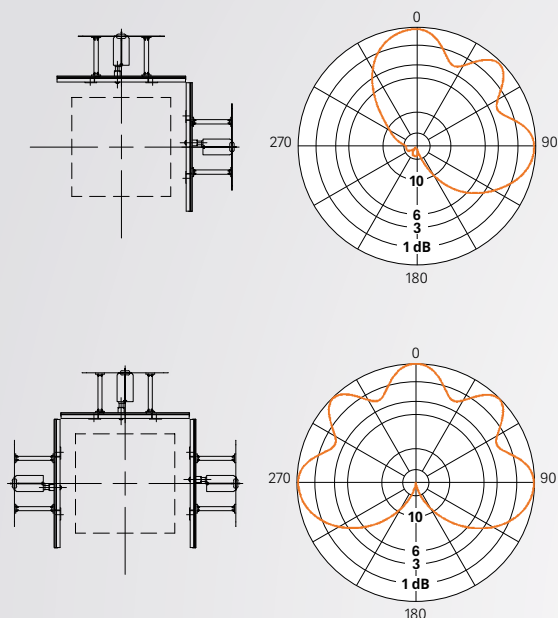
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	Available upon request

3VTV-04

VHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 202 MHz



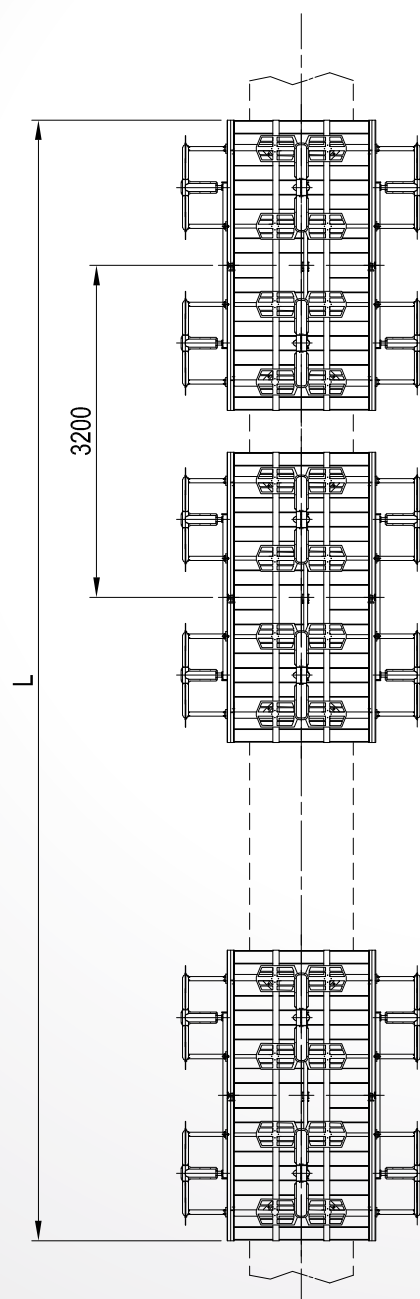
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	1	11	12.6	79 (174)		2.76 (620)
	2	8	6.3	170 (375)	2.8	4.65 (1045)
	3	6.2	4.2	257 (567)	(9.2)	6.04 (1358)
	4	5	3.2	346 (763)		7.41 (1666)
2	1	14	25.1	170 (375)		5.52 (1241)
	2	11	12.6	346 (763)	6	9.30 (2091)
	3	9.2	8.3	537 (1184)	(19.7)	12.08 (2716)
	4	8	6.3	729 (1607)		14.84 (3336)
4	1	17	50.1	346 (763)		11.05 (2484)
	2	14	25.1	729 (1607)	12.4	18.61 (4184)
	3	12.3	16.9	1064 (2346)	(40.7)	24.17 (5434)
	4	11	12.6	1389 (3062)		29.71 (6679)
6	1	18.9	77.6	537 (1184)		16.58 (3727)
	2	15.9	38.9	1064 (2346)	18.8	27.94 (6281)
	3	14	25.1	1582 (3488)	(61.7)	36.24 (8147)
	4	12.9	19.5	2101 (4632)		44.57 (10020)
8	1	20	100	729 (1607)		22.11 (4971)
	2	17	50.1	1389 (3062)	25.2	37.25 (8374)
	3	15.3	33.9	2101 (4632)	(82.7)	48.34 (10867)
	4	14	25.1	2756 (6076)		59.44 (13363)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

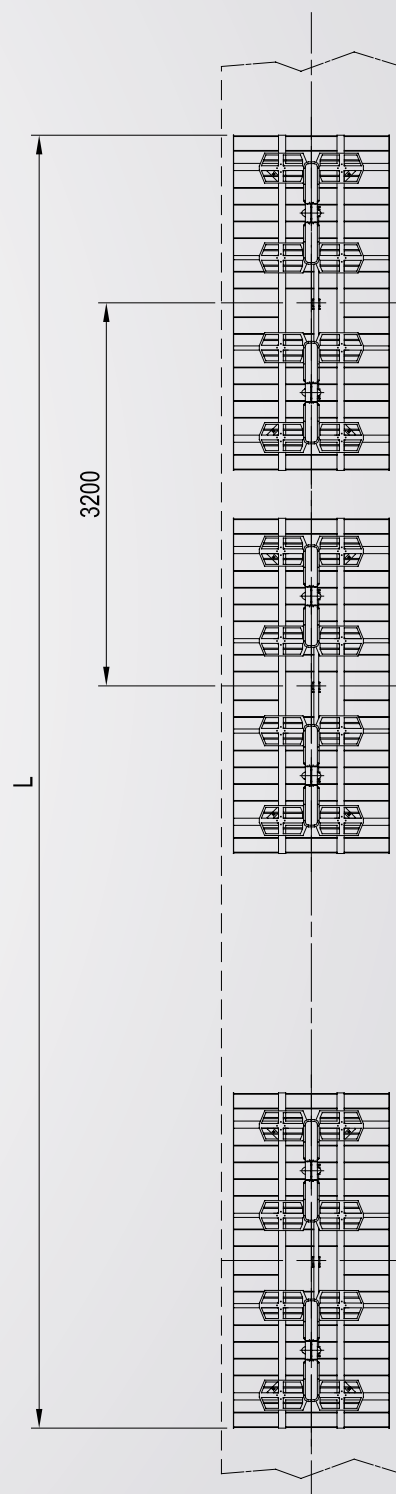
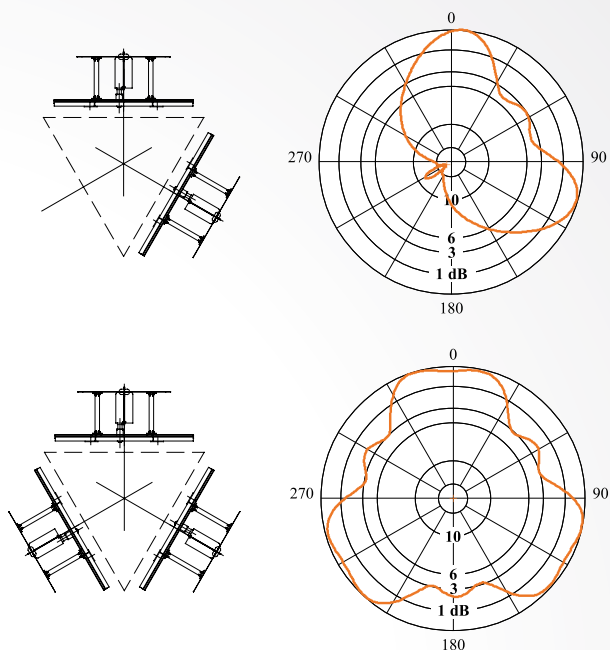
(3) v= 160 km/h (100 mph)



3VTV-04

VHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2 AND 3 FACES AT 202 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	1	10	10	79 (174)	2.8 (9.2)	2.76 (620)
	2	7	5	170 (375)		4.02 (904)
	3	5.2	3.3	257 (567)		5.55 (1248)
2	1	13	20	170 (375)	6 (19.7)	5.29 (1189)
	2	10	10	346 (763)		7.90 (1776)
	3	8.2	6.8	537 (1184)		11.17 (2511)
4	1	16	39.8	346 (763)	12.4 (40.7)	10.58 (2378)
	2	13	20	729 (1607)		15.83 (3559)
	3	5.3	3.4	1064 (2346)		22.35 (5024)
6	1	17.9	61.6	537 (1184)	18.8 (61.7)	15.89 (3572)
	2	14.9	30.9	1064 (2346)		23.77 (5344)
	3	13	20	1582 (3488)		33.56 (7545)
8	1	19	79.4	729 (1607)	25.2 (82.7)	21.20 (4766)
	2	16	39.8	1389 (3062)		31.70 (7126)
	3	14.2	26.3	2101 (4632)		44.74 (10058)

(1) referred to half wave dipole. Losses of power distribution network not included.

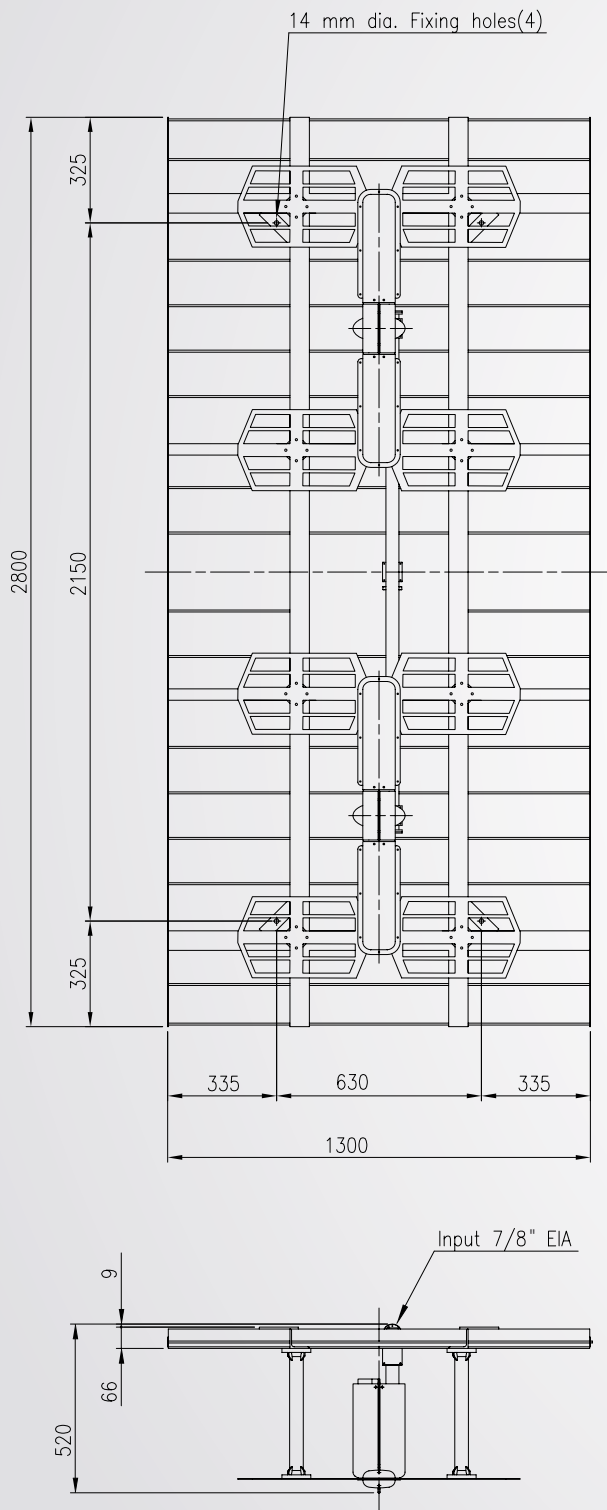
(2) without mounting hardware

(3) v= 160 km/h (100 mph)

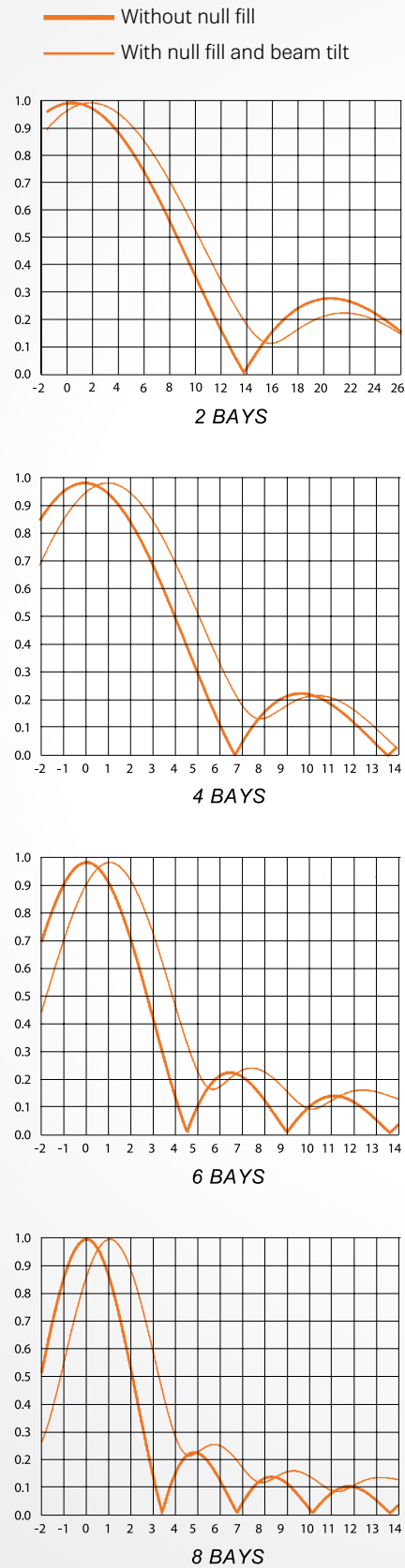
3VTV-04

VHF PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN



All dimensions are in millimeters

3VTV-11

VHF (BIII) / DAB DIPOLE ANTENNA

FEATURES

- vertical polarization
- broadband 174 ÷ 240 MHz
- 2 dB gain
- omnidirectional pattern with preferred direction
- stainless steel



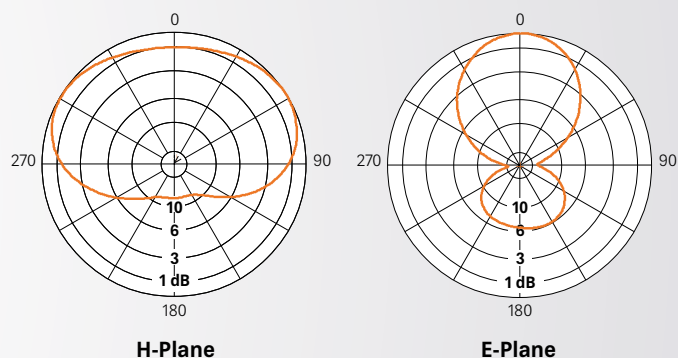
ELECTRICAL DATA

ANTENNA TYPE	3VTV-11/G
FREQUENCY RANGE	174 ÷ 240 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8"EIA
MAX POWER	3 kW
VSWR	≤ 1.25
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	2 dB
HALF POWER BEAMWIDTH	E-Plane ± 37° H-Plane ± 105°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

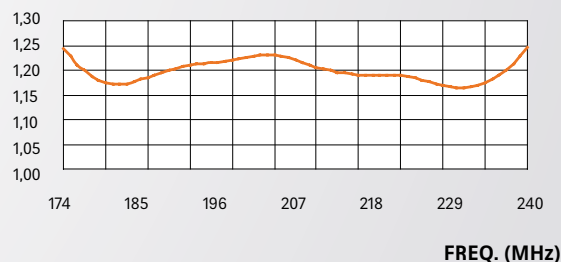
MECHANICAL DATA

DIMENSIONS mm (in)	728 x 671 x 136 (28.7 x 26.4 x 5.4)
WEIGHT kg (lb)	7.5 (16.5)
WIND SURFACE m ² (ft ²)	0.094 (1.01)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.14 (31.5)
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Brass, aluminium, stainless steel, teflon, fiberglass (radome)
ICING PROTECTION	Feed point radome
RADOME COLOUR	Grey (standard)
MOUNTING mm (in)	With special pipe clamps ø 60 ÷ 114 (2.36 ÷ 4.5)

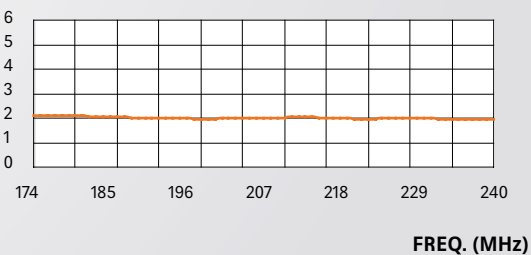
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



3VTV-11

VHF (BIII) / DAB DIPOLE ANTENNA

FEATURES

- radiating systems with 3VTV-11
- omnidirectional patterns with preferred direction
- high power systems

ELECTRICAL DATA

FREQUENCY RANGE	Refer to table
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR (typical)	≤ 1.25 in the operating frequency
POLARIZATION	Vertical
GAIN	Refer to table
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
RADOME COLOUR	Grey (standard)
MOUNTING HARDWARE	One clamp for pole, supplied

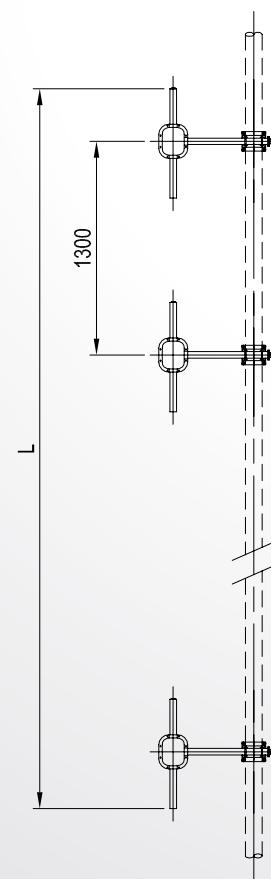
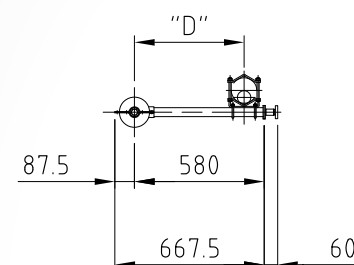
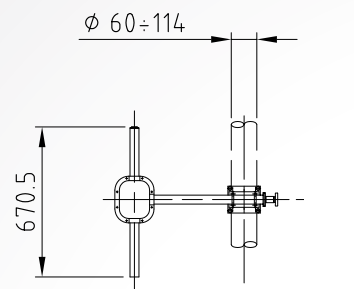
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
2	1	5	3.16	22 (49)	1.97 (6.5)	0.29 (65)
4	1	8	6.31	44 (97)	4.57 (15)	0.59 (133)
6	1	9.8	9.55	66 (146)	7.17 (23.5)	0.88 (198)
8	1	11	12.59	88 (194)	9.77 (32.1)	1.18 (265)
12	1	12.8	19.05	132 (291)	14.97 (49.1)	1.77 (398)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

(3) v= 160 km/h (100 mph)



All dimensions are in millimeters



UHF ANTENNAS

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UTV-01

UHF PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 470 ÷ 860 MHz
- 12 dB gain
- directional pattern
- suitable as a component in various arrays



ELECTRICAL DATA

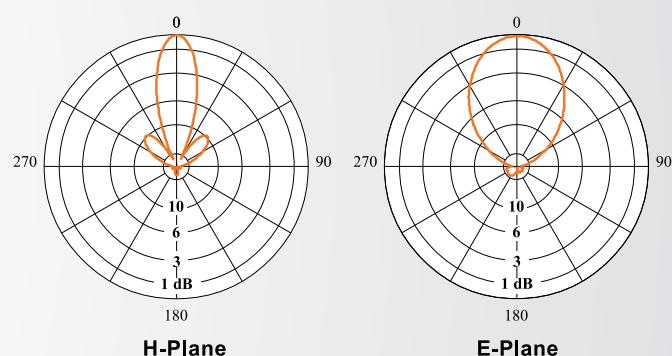
ANTENNA TYPE	UTV-01	UTV-01/E *
FREQUENCY RANGE	470 ÷ 860 MHz	
IMPEDANCE	50 ohm	
CONNECTOR	7/8" EIA 90°	7/16 F 90° or 7/8" EIA 90°
MAX POWER	2.5 kW	1.5 kW (7/16 F 90°) 2.5 kW (7/8" EIA 90°)
VSWR	≤ 1.1	
POLARIZATION	Horizontal	
GAIN (referred to half wave dipole)	12 dB	
HALF POWER BEAMWIDTH	E-Plane ± 32° H-Plane ± 12°	
LIGHTNING PROTECTION	All metal parts DC grounded	

* UTV-01/E white radome only

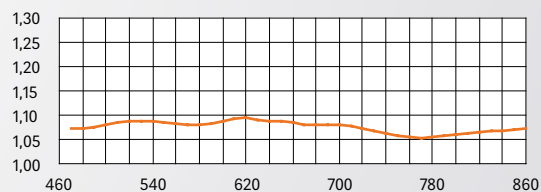
MECHANICAL DATA

DIMENSIONS mm (in)	1000 x 450 x 280 (39.37 x 17.72 x 11.02)
WEIGHT kg (lb)	14.5 (32)
WIND SURFACE m ² (ft ²)	0.45 (4.8)
WIND LOAD kN (lbf)	0.70 (157)
at 160 km/h (100 mph)	
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Brass, aluminium, stainless steel, teflon, fiberglass (radome)
ICING PROTECTION	Full radome
RADOME COLOUR	Orange (RAL 2009) - White (standard)
MOUNTING	Directly on supporting mast or with special pipe clamps

RADIATION PATTERNS (Mid Band)

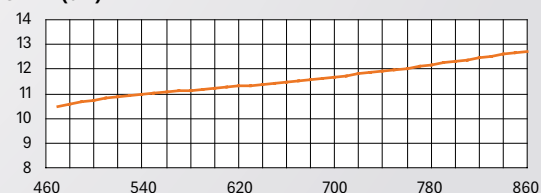


VSWR



FREQ. (MHz)

GAIN (dB)



FREQ. (MHz)

UTV-01

UHF PANEL ANTENNA

FEATURES

- radiating systems with UTV-01 panels
- very high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network



UTV-01/64
HALIFAX, CANADA

ELECTRICAL DATA

FREQUENCY RANGE	470 ÷ 860 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.05 in the operating channels or ≤ 1.15 Throughout the frequency range
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

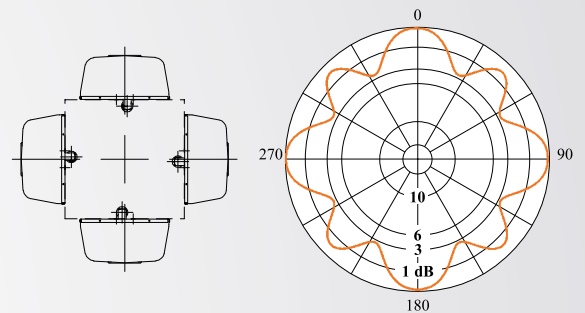
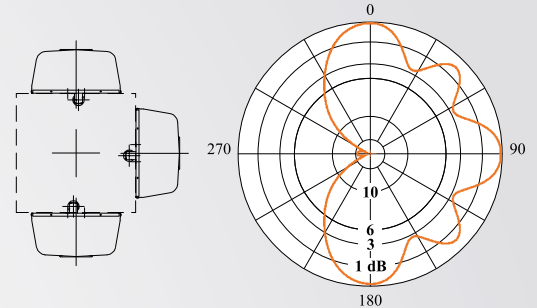
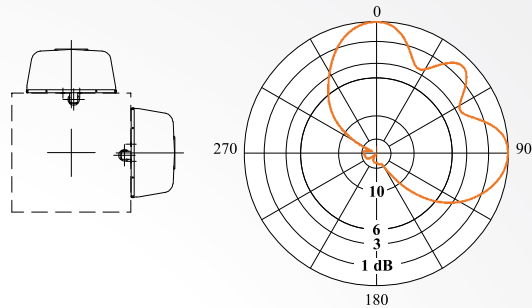
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
MOUNTING HARDWARE	Available upon request

UTV-01

UHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 666 MHz



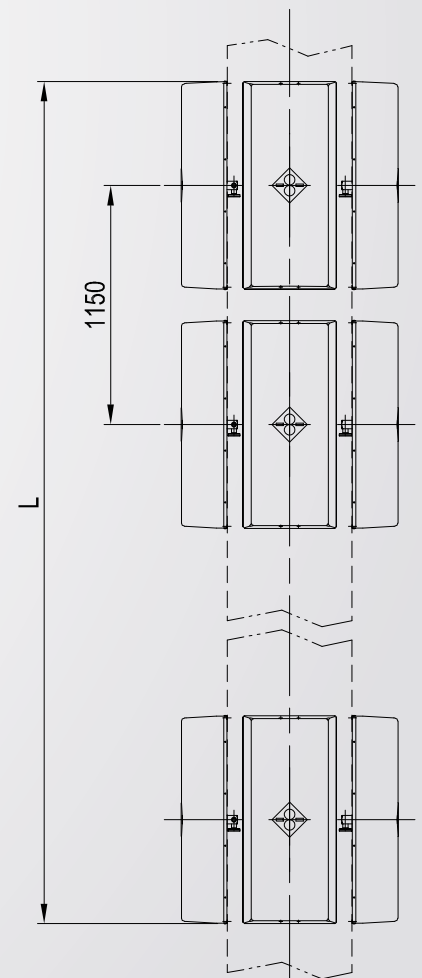
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)	WIND LOAD (4) kN (lbf)
2	1	15.1	32.4	38 (84)		1.98 (445)	5.66 (1272)
	2	12.2	16.6	84 (185)	2.15	4.34 (976)	8.03 (1805)
	3	10.3	10.7	122 (269)	(7.05)	5.38 (1209)	9.06 (2037)
	4	9.1	8.2	168 (370)		5.23 (1176)	8.92 (2005)
4	1	18.3	67.6	84 (185)		4.08 (917)	7.77 (1747)
	2	15.3	34	168 (370)	4.45	8.98 (2019)	12.67 (2848)
	3	13.5	22.4	281 (619)	(14.6)	10.68 (2401)	14.37 (3231)
	4	12.3	17	340 (750)		10.37 (2331)	14.06 (3161)
6	1	20	100	122 (269)		6.29 (1414)	9.97 (2241)
	2	17	50.1	281 (619)	6.75	13.65 (3069)	17.33 (3896)
	3	15.3	34	378 (833)	(22.15)	16.16 (3633)	19.85 (4462)
	4	14	25.2	460 (1014)		15.71 (3532)	19.40 (4361)
8	1	21.3	134.8	168 (370)		8.31 (1868)	12.00 (2698)
	2	18.3	67.6	340 (750)	9.05	18.27 (4107)	21.95 (4935)
	3	16.6	45.7	460 (1014)	(29.69)	21.67 (4872)	25.36 (5701)
	4	15.3	34	583 (1285)		21.04 (4730)	24.73 (5560)
10	1	22.3	169.8	224 (494)		10.42 (2343)	14.10 (3170)
	2	19.3	85.1	418 (922)	11.35	21.09 (4741)	24.78 (5571)
	3	17.6	57.5	672 (1481)	(37.24)	27.14 (6101)	30.83 (6931)
	4	16.3	42.6	896 (1975)		26.36 (5926)	30.04 (6753)
12	1	23	199.5	281 (619)		12.54 (2819)	16.23 (3649)
	2	20.1	102.3	460 (1014)	13.65	27.54 (6191)	31.23 (7021)
	3	18.3	67.6	843 (1858)	(44.78)	31.97 (7187)	35.65 (8014)
	4	17.1	51.2	992 (2187)		32.08 (7212)	35.77 (8041)
16	1	24.3	269.2	340 (750)		16.75 (3766)	20.44 (4595)
	2	21.3	134.8	583 (1285)	18.25	36.78 (8268)	40.47 (9098)
	3	19.6	91.2	992 (2187)	(59.88)	43.14 (9698)	46.83 (10528)
	4	18.4	69.2	1263 (2784)		44.16 (9928)	47.85 (10757)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

(3) Without top mast, v= 160 km/h (100 mph) (4) With top mast, v= 160 km/h (100 mph)

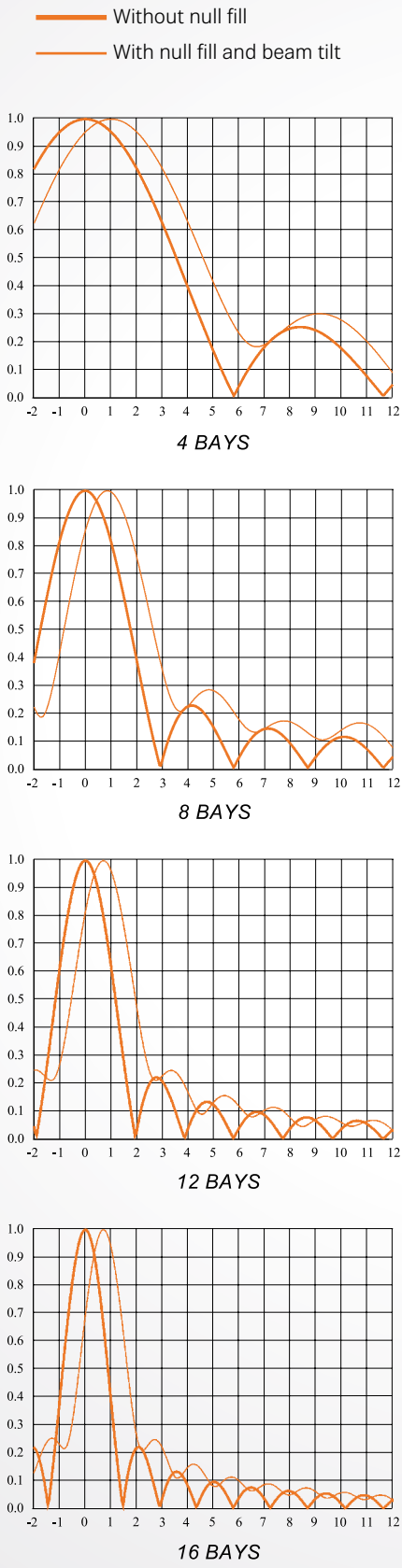
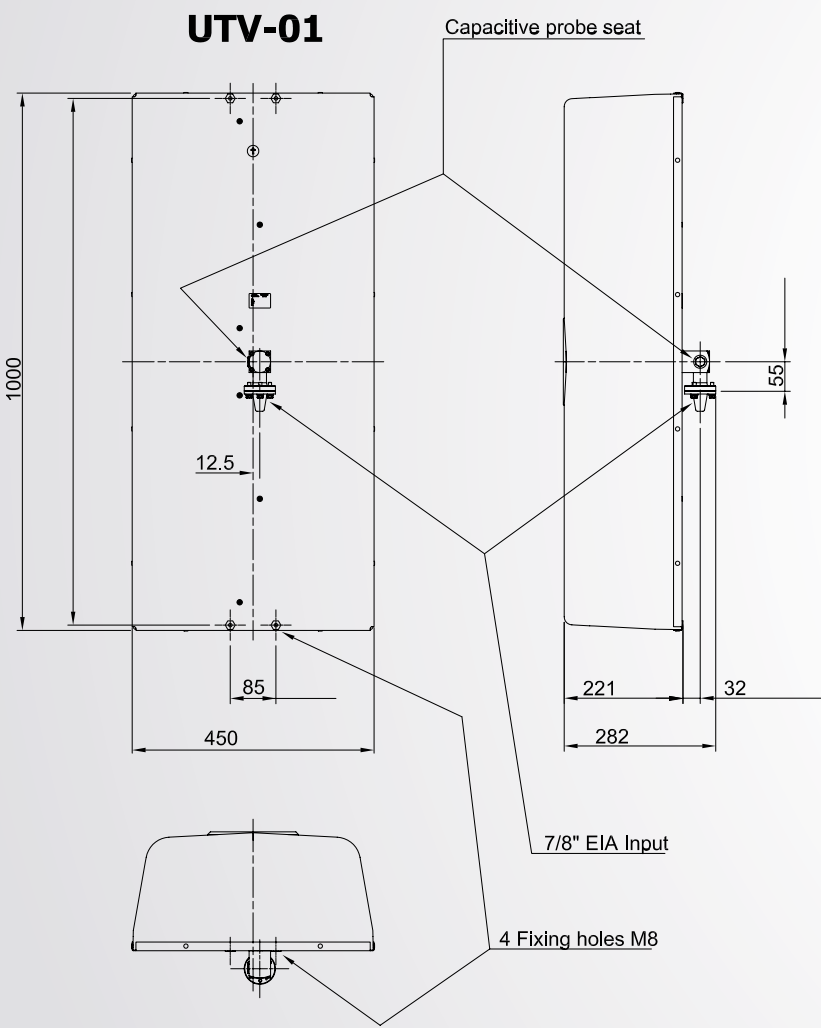


UTV-01

UHF PANEL ANTENNA

DIMENSIONAL DETAILS

VERTICAL PATTERN



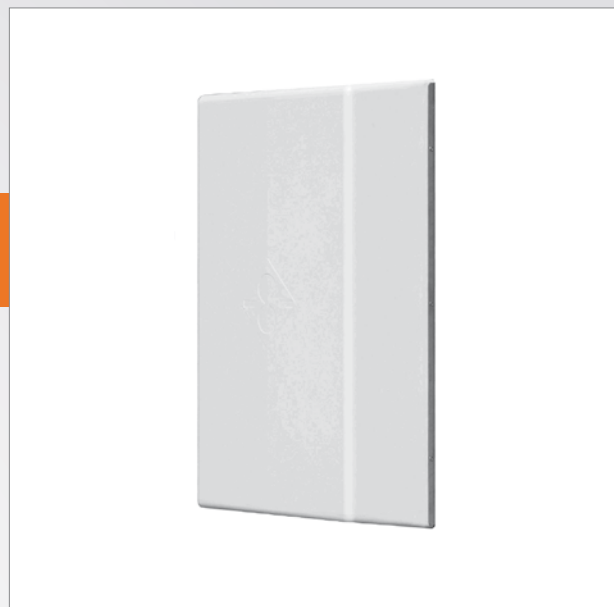
All dimensions are in millimeters

UTV-02

UHF PANEL ANTENNA

FEATURES

- vertical polarization
- broadband 470 ÷ 860 MHz
- 10.5 dB gain
- directional pattern
- suitable as a component in various arrays



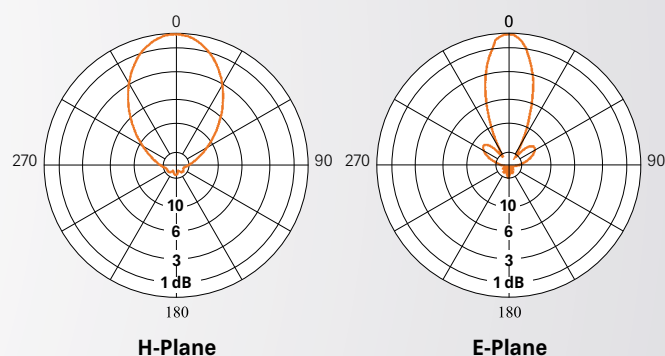
ELECTRICAL DATA

ANTENNA TYPE	UTV-02
FREQUENCY RANGE	470 ÷ 860 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8"EIA
MAX POWER	2.5 kW
VSWR	≤ 1.1
POLARIZATION	Vertical
GAIN (referred to half wave dipole)	10.5 dB
HALF POWER BEAMWIDTH	E-Plane ± 15° H-Plane ± 32°
LIGHTNING PROTECTION	All Metal Parts DC Grounded

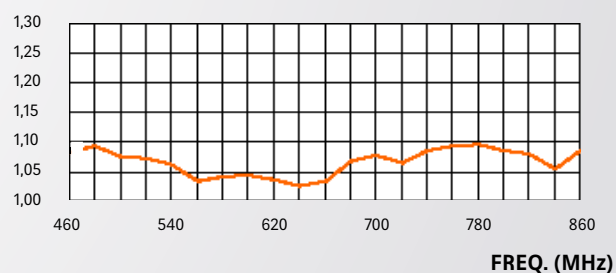
MECHANICAL DATA

DIMENSIONS mm (in)	759 x 460 x 240 (29.9 x 18.1 x 9.5)
WEIGHT kg (lb)	15.5 (34.2)
WIND SURFACE m ² (ft ²)	0.35 (3.8)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.54 (121)
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Brass, aluminium, stainless steel, teflon, fiberglass (radome)
ICING PROTECTION	Full radome
RADOME COLOUR	Orange (RAL 2009) - White (standard)
MOUNTING	Directly on supporting mast or with special pipe clamps

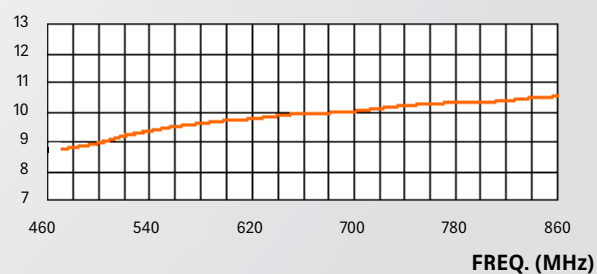
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



UTV-02

UHF PANEL ANTENNA

FEATURES

- radiating systems with UTV-02 panels
- omnidirectional or directional patterns
- equal or unequal power split ratio distribution network
- very high power systems
- broadband 470 ÷ 860 MHz



UTV-02/14 (6+2+6)
SEGGIO, ITALY

ELECTRICAL DATA

FREQUENCY RANGE	470 ÷ 860 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.05 in the operating channels or ≤ 1.15 Throughout the frequency range
POLARIZATION	Vertical
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration with two equal halves Each half can accept full power.

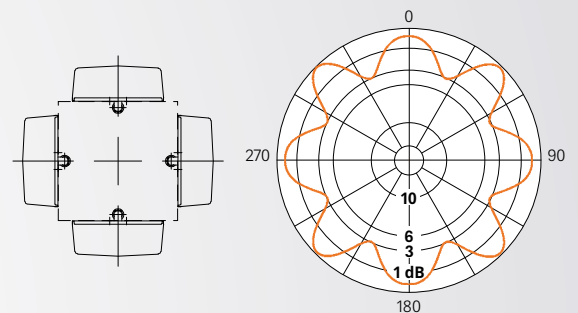
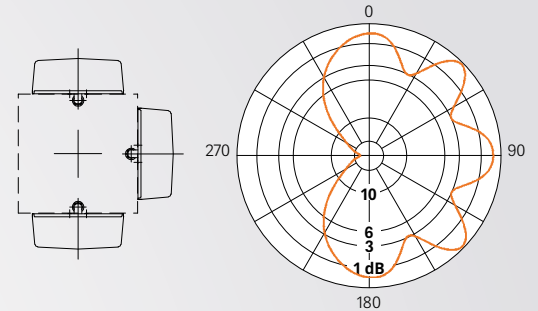
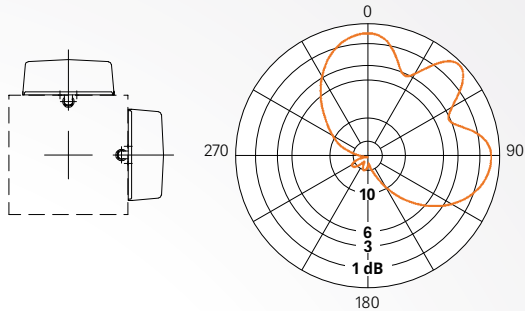
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
MOUNTING HARDWARE	Available upon request

UTV-02

UHF PANEL ANTENNA

HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 666 MHz



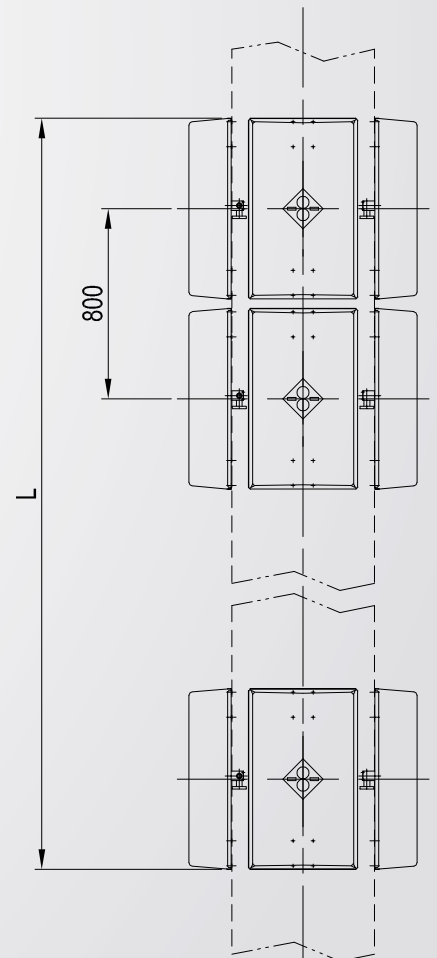
TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)	WIND LOAD (4) kN (lbf)
2	1	13	19.9	42 (93)		1.41 (317)	5.09 (1144)
	2	10	10	92 (203)	1.55	3.15 (708)	6.83 (1535)
	3	8.2	6.6	134 (295)	(5.09)	3.75 (843)	7.44 (1673)
	4	7	5	184 (406)		3.57 (803)	7.25 (1630)
4	1	16	39.8	92 (203)		2.87 (645)	6.56 (1475)
	2	13	19.9	184 (406)	3.15	6.39 (1437)	10.08 (2266)
	3	11.2	13.2	305 (672)	(10.33)	7.62 (1713)	11.30 (2540)
	4	10	10	370 (816)		7.25 (1630)	10.94 (2459)
6	1	17.8	60.2	134 (295)		4.35 (978)	8.04 (1807)
	2	14.8	30.2	305 (672)	4.75	9.64 (2167)	13.33 (2997)
	3	13	19.9	414 (913)	(15.58)	11.48 (2581)	15.16 (3408)
	4	11.8	15.1	500 (1102)		10.93 (2457)	14.62 (3287)
8	1	19	79.4	184 (406)		5.84 (1313)	9.53 (2142)
	2	16	39.8	370 (816)	6.35	12.87 (2893)	16.56 (3723)
	3	14.2	26.4	500 (1102)	(20.83)	15.33 (3446)	19.02 (4276)
	4	13	19.9	647 (1426)		14.60 (3282)	18.29 (4112)
10	1	20	100	244 (538)		7.29 (1639)	10.98 (2468)
	2	17	50	458 (1010)	7.95	16.14 (3628)	19.83 (4458)
	3	15.8	38	730 (1609)	(26.08)	19.20 (4316)	22.89 (5146)
	4	14	25.1	975 (2149)		18.29 (4112)	21.98 (4941)
12	1	20.8	120.2	305 (672)		8.20 (1843)	11.88 (2671)
	2	17.8	60.2	500 (1102)	9.55	19.41 (4364)	23.09 (5191)
	3	16	39.8	915 (2017)	(31.33)	23.07 (5186)	26.76 (6016)
	4	14.8	30.2	1090 (2403)		21.97 (4939)	25.65 (5766)
16	1	22	158.5	370 (816)		11.70 (2630)	15.39 (3460)
	2	19	79.4	647 (1426)	12.75	25.89 (5820)	29.58 (6650)
	3	17.2	52.5	1090 (2403)	(41.83)	30.80 (6924)	34.48 (7751)
	4	16	39.8	1390 (3064)		29.33 (6594)	33.01 (7421)

(1) referred to half wave dipole. Losses of power distribution network not included.

(2) without mounting hardware

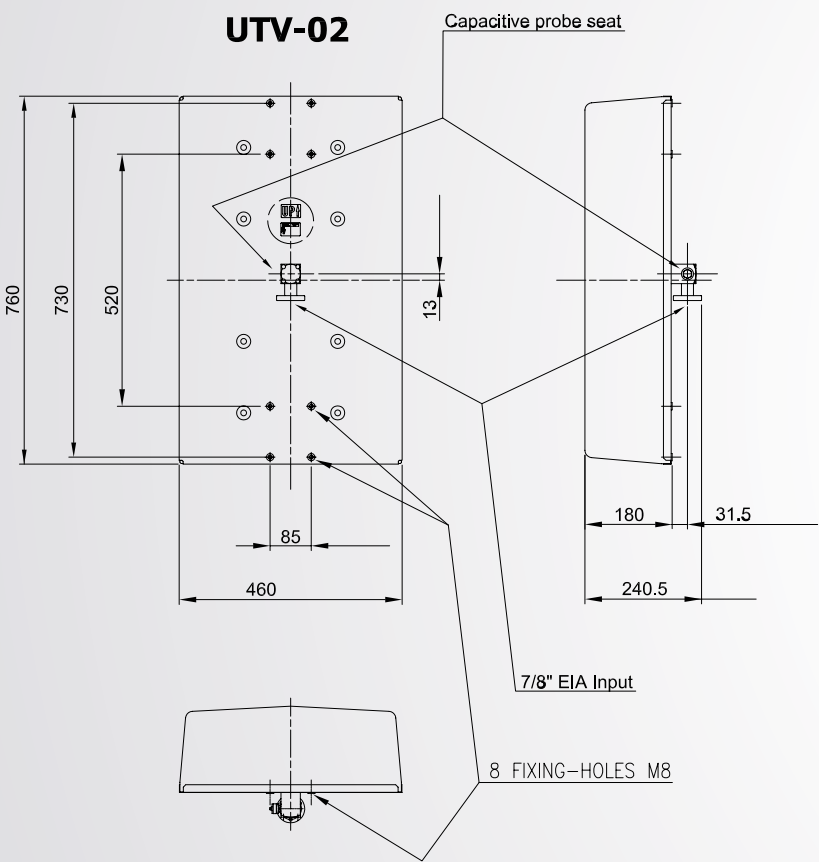
(3) Without top mast, v= 160 km/h (100 mph) (4) With top mast, v= 160 km/h (100 mph)



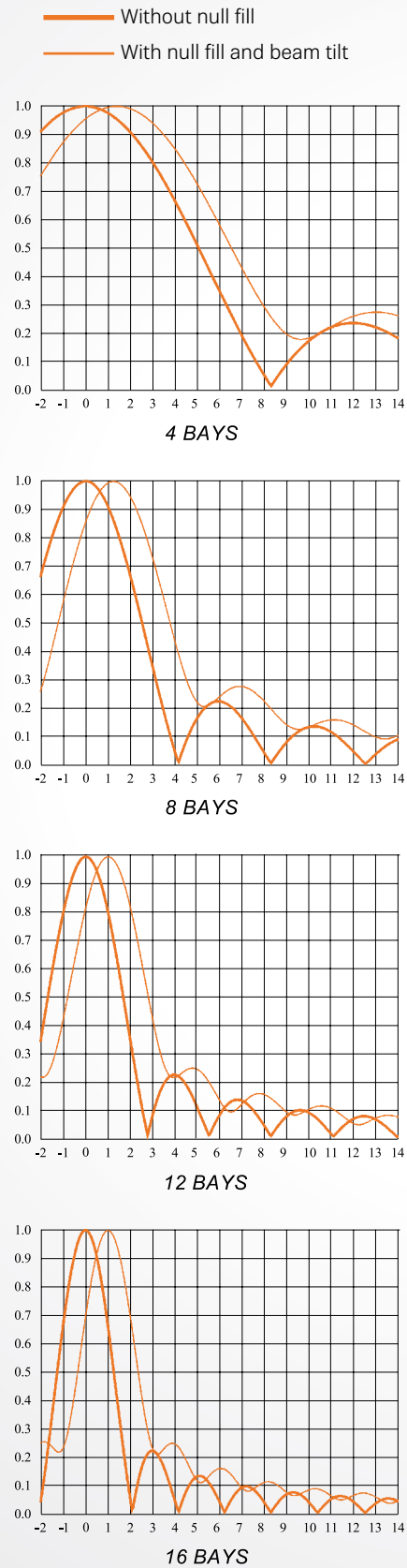
UTV-02

UHF PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN



All dimensions are in millimeters

UTV-12

UHF PANEL ANTENNA

FEATURES

- horizontal polarization
- broadband 470 ÷ 860 MHz
- 13 dB gain
- directional pattern
- suitable as a component in five-sided arrays



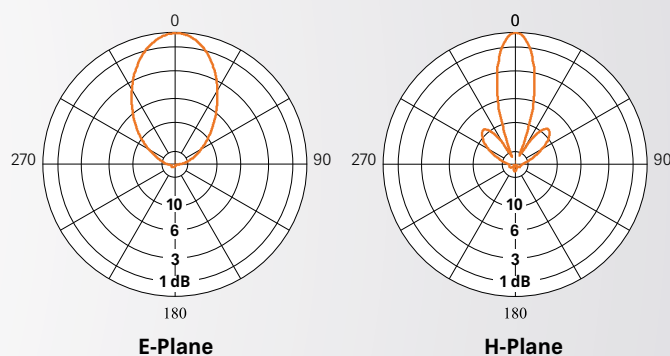
ELECTRICAL DATA

ANTENNA TYPE	UTV-12
FREQUENCY RANGE	470 ÷ 860 MHz
IMPEDANCE	50 ohm
CONNECTOR	7/8" EIA
MAX POWER	2.5 kW
VSWR	≤ 1.18
POLARIZATION	Horizontal
GAIN (referred to half wave dipole)	13 dB
HALF POWER BEAMWIDTH	E-Plane ± 27° H-Plane ± 12°
LIGHTNING PROTECTION	All metal parts DC grounded

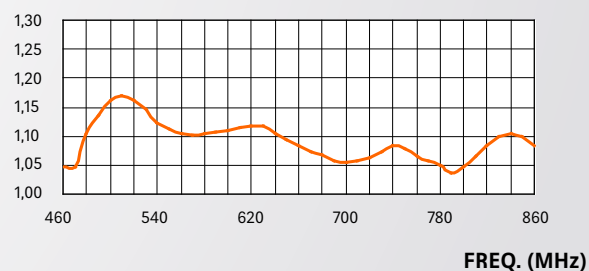
MECHANICAL DATA

DIMENSIONS mm (in)	1000 x 450 x 280 (39.4 x 17.7 x 11)
WEIGHT kg (lb)	18.5 (41)
WIND SURFACE m ² (ft ²)	0.45 (4.8)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.70 (157)
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Brass, aluminium, stainless steel, teflon, fiberglass (radome)
ICING PROTECTION	Full radome
RADOME COLOUR	Orange (RAL 2009) - White (standard)
MOUNTING	Directly on supporting mast

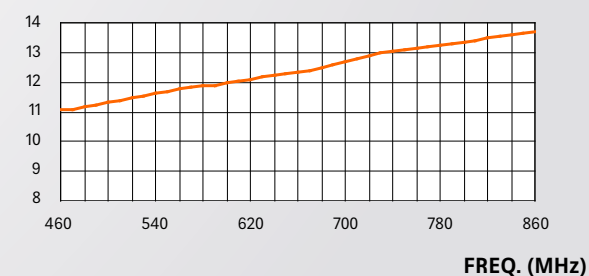
RADIATION PATTERNS (Mid Band)



VSWR



GAIN (dB)



UTV-12

UHF PANEL ANTENNA

FEATURES

- radiating systems with UTV-12 panels
- very high power systems
- omnidirectional or directional patterns
- equal or unequal split ratio power distribution network



UTV-12/60 (12x5)
DURRIS, U.K.

ELECTRICAL DATA

FREQUENCY RANGE	470 ÷ 860 MHz
IMPEDANCE	50 ohm
CONNECTOR	EIA flange according to system power rating
POWER RATING	The antenna system can accept any power according to requirements
VSWR	≤ 1.15 in the operating channels or ≤ 1.2 Throughout the frequency range
POLARIZATION	Horizontal
GAIN	Refer to table
HORIZONTAL PATTERN	Any type according to requirement
VERTICAL PATTERN	Null fill, beam tilt and special requirements to order
OTHER FEATURES	The antenna system can be supplied in split feed configuration (two equal halves). Each half can accept full power.

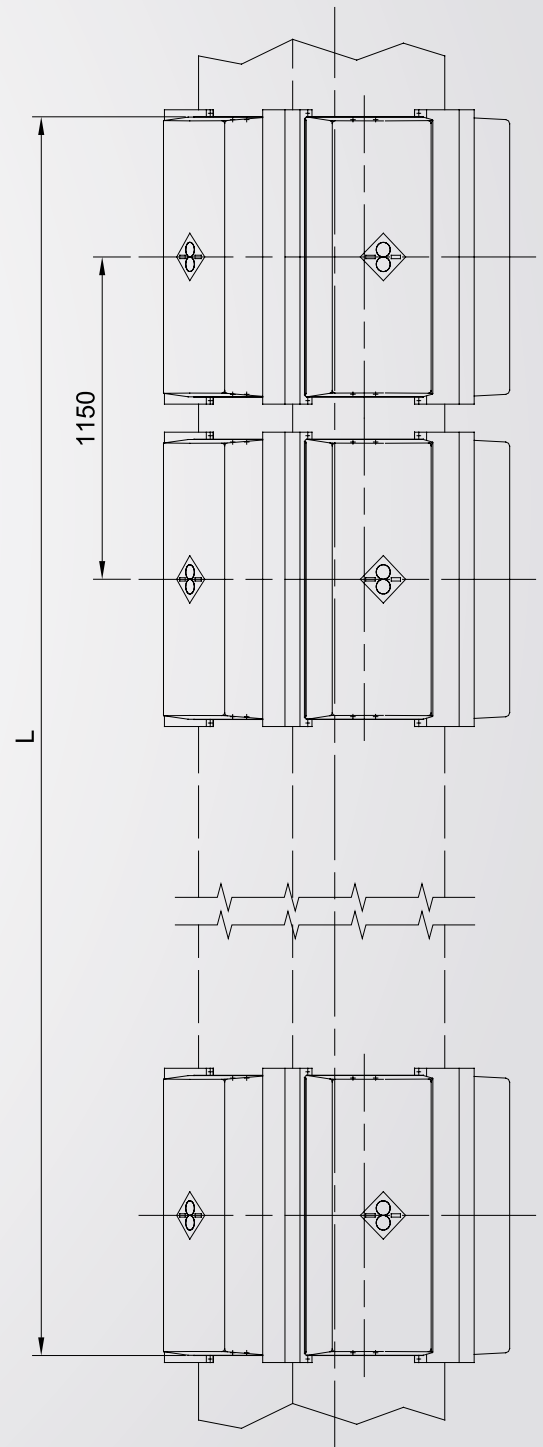
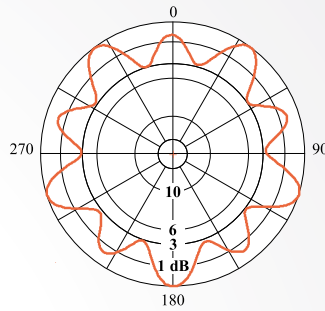
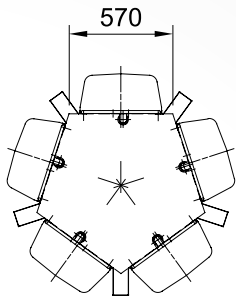
MECHANICAL DATA

HEIGHT OF ARRAY	Subject to number of bays
TOTAL NET WEIGHT	Refer to table
WIND LOAD	Refer to table
PRESSURIZABLE	Yes
MOUNTING HARDWARE	Available upon request

UTV-12

UHF PANEL ANTENNA

TYPICAL HORIZONTAL PATTERNS OMNIDIRECTIONAL LAYOUT 5 FACES AT 666 MHz



TECHNICAL DATA

NUMBER OF BAYS	PANELS PER BAY	GAIN dB (1)	GAIN TIMES (1)	WEIGHT (2) kg (lb)	ANTENNA HEIGHT L m (ft)	WIND LOAD (3) kN (lbf)
1	5	5.8	3.8	655 (1444)	1 (3.28)	5.12 (1151)
2	5	9	7.9	1310 (2888)	2.15 (7.05)	10.24 (2302)
4	5	12.1	16.2	2620 (5776)	4.45 (14.6)	20.25 (4552)
6	5	13.8	24	3930 (8664)	6.75 (22.15)	30.60 (6879)
8	5	15.2	33.1	5245 (11563)	9.05 (29.69)	40.61 (9129)
10	5	16.2	41.7	6555 (14451)	11.35 (37.24)	50.85 (11432)
12	5	17	50.1	7870 (17350)	13.65 (44.78)	61.89 (13913)

(1) referred to half wave dipole. Losses of power distribution network not included.

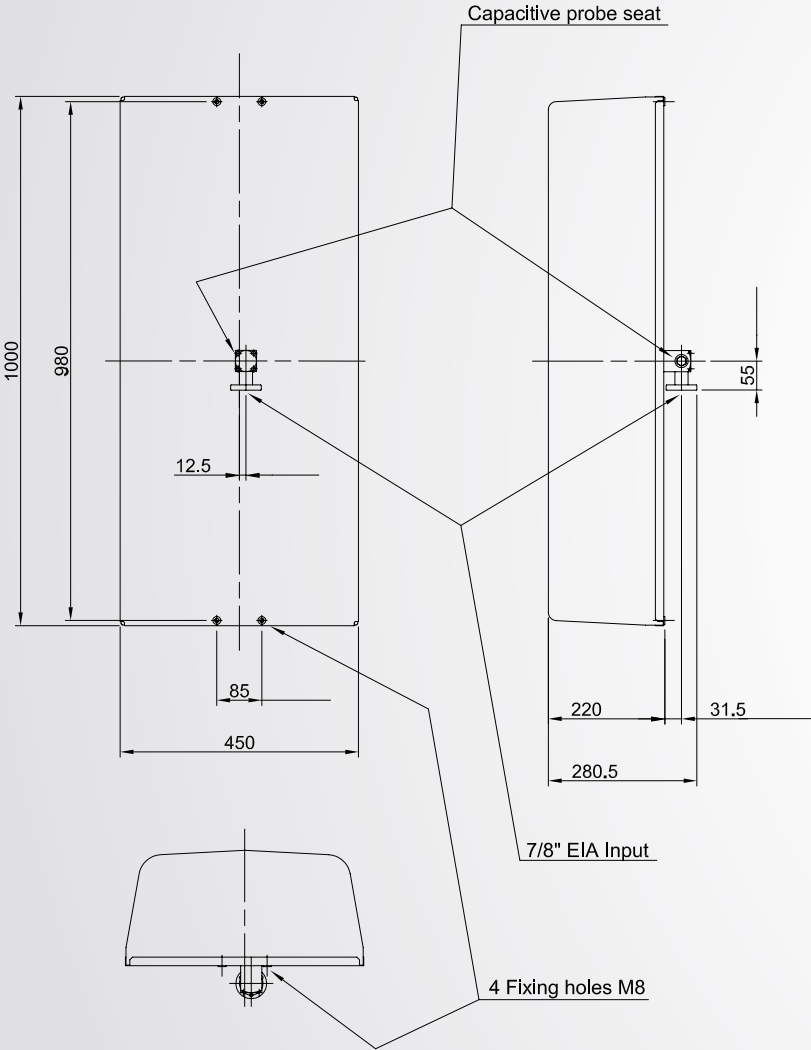
(2) with pentagonal spine

(3) with top mast, $v = 160 \text{ km/h}$ (100 mph)

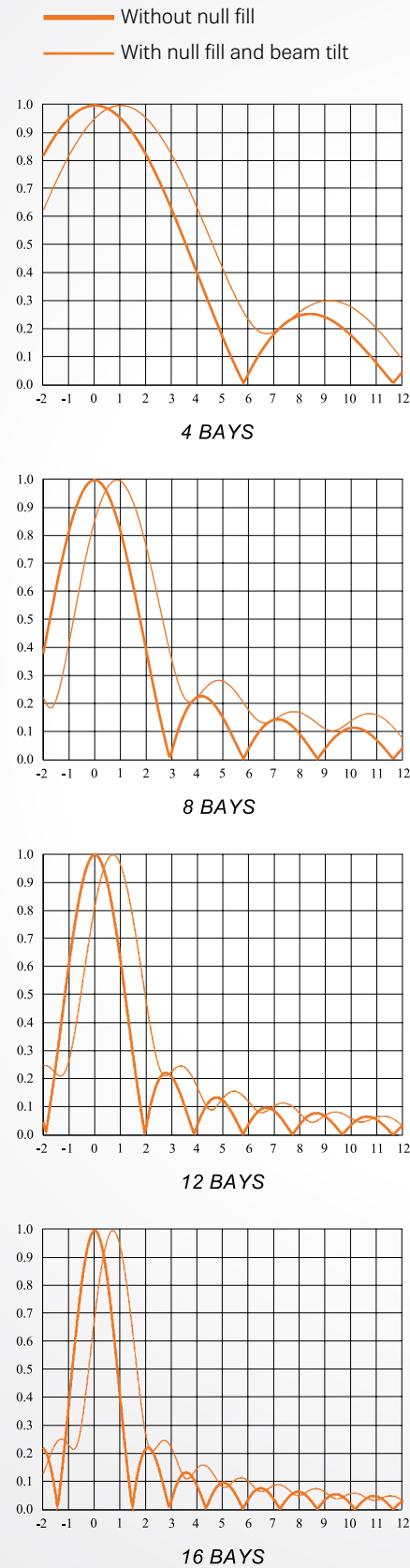
UTV-12

UHF PANEL ANTENNA

DIMENSIONAL DETAILS



VERTICAL PATTERN



All dimensions are in millimeters

UTVC-01/X

UHF PANEL ANTENNA

FEATURES

- dual polarization $\pm 45^\circ$
- broadband 470 ÷ 608 MHz
- 11 dB gain
- directional pattern
- suitable as a component in various arrays



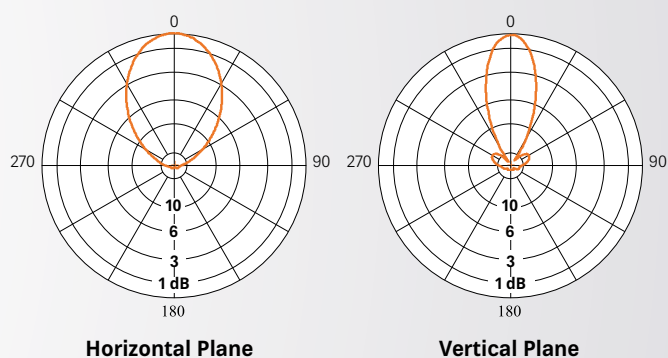
ELECTRICAL DATA

ANTENNA TYPE	UTVC-01/X
FREQUENCY RANGE	470 ÷ 608 MHz
IMPEDANCE	50 ohm
CONNECTOR	2 x 7/8" EIA
MAX POWER	2 x 2.5 kW
VSWR	≤ 1.18
POLARIZATION	$\pm 45^\circ$
GAIN (referred to half wave dipole)	11 dB
HALF POWER BEAMWIDTH	Horizontal-Plane $\pm 31^\circ$ Vertical-Plane $\pm 16^\circ$
LIGHTNING PROTECTION	All metal parts of the antenna are DC grounded

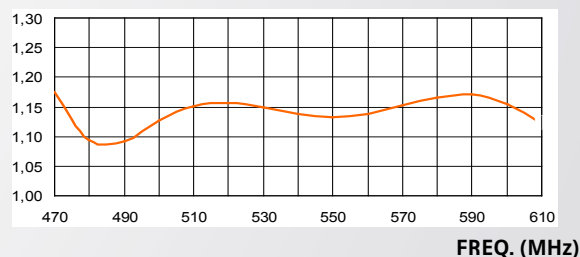
MECHANICAL DATA

DIMENSIONS mm (in)	1133 x 703 x 285 (44.6 x 27.7 x 11.2)
WEIGHT kg (lb)	26 (57)
WIND SURFACE m ² (ft ²)	0.8 (8.6)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	1.25 (281)
MAX WIND VELOCITY km/h (mph)	220 (136.7)
MATERIALS	Stainless steel, brass, copper, teflon, fiberglass (radome)
ICING PROTECTION	Full radome
RADOME COLOUR	Orange (RAL 2009) - White (standard)
MOUNTING	Directly on supporting mast or with special pipe clamps

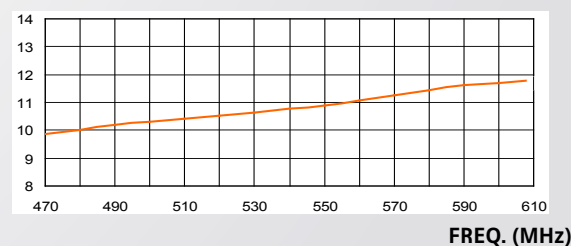
RADIATION PATTERNS (Mid Band)
polarization $\pm 45^\circ$



VSWR



GAIN (dB)



UTV-11/LP

UHF SUPERTURNSTILE ANTENNA

FEATURES

- horizontal polarization
- broadband 470 ÷ 860 MHz
- omnidirectional pattern
- self supporting radome

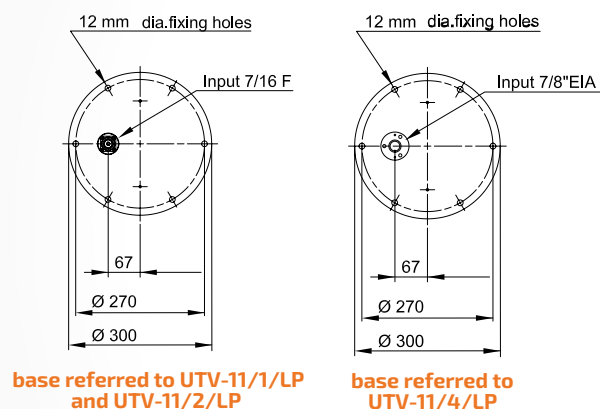


ELECTRICAL DATA

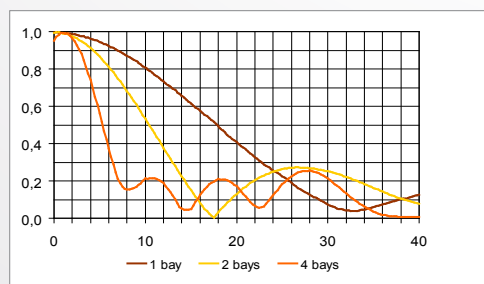
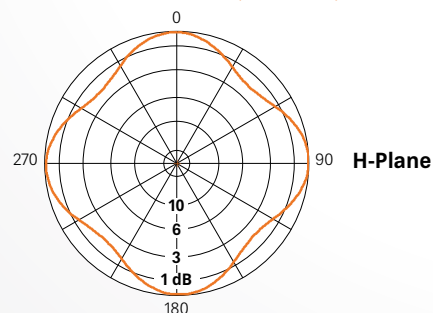
ANTENNA TYPE	UTV-11/1/LP	UTV-11/2/LP	UTV-11/4/LP
FREQUENCY RANGE	470 ÷ 860 MHz	470 ÷ 860 MHz	470 ÷ 860 MHz
IMPEDANCE	50 ohm	50 ohm	50 ohm
CONNECTOR	7/16 F	7/16 F	7/8" EIA
MAX POWER	1 kW	1.4 kW	2 kW
VSWR	≤ 1.15 ≤ 1.1 (470÷790MHz)	≤ 1.1	≤ 1.1
POLARIZATION	Horizontal	Horizontal	Horizontal
GAIN (referred to half wave dipole)	5 dB	8 dB	11 dB
LIGHTNING PROTECTION	All metal parts DC grounded		

MECHANICAL DATA

DIAMETER radome "D" mm (in)	230 (9.06)	230 (9.06)	230 (9.06)
ANTENNA HEIGHT "L" mm (in)	1214 (47.8)	2438 (96)	4868 (191.7)
WEIGHT kg (lb)	18 (39.7)	31 (68.3)	58 (128)
WIND SURFACE m ² (ft ²)	0.28 (3)	0.56 (6)	1.12 (12)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.25 (56.2)	0.51 (115)	1.02 (229)
MAX WIND VELOCITY km/h (mph)	220 (136.7)		
MATERIALS	Brass, aluminium, teflon, fiberglass (radome)		
ICING PROTECTION	Full radome		
RADOME COLOUR	Grey		
MOUNTING	Directly on top of existing mast by means of a flange		



RADIATION PATTERNS (Mid Band)



V-Plane

All dimensions are in millimeters

UTV-11

UHF SUPERTURNSTILE ANTENNA

FEATURES

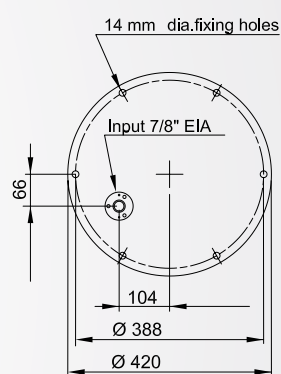
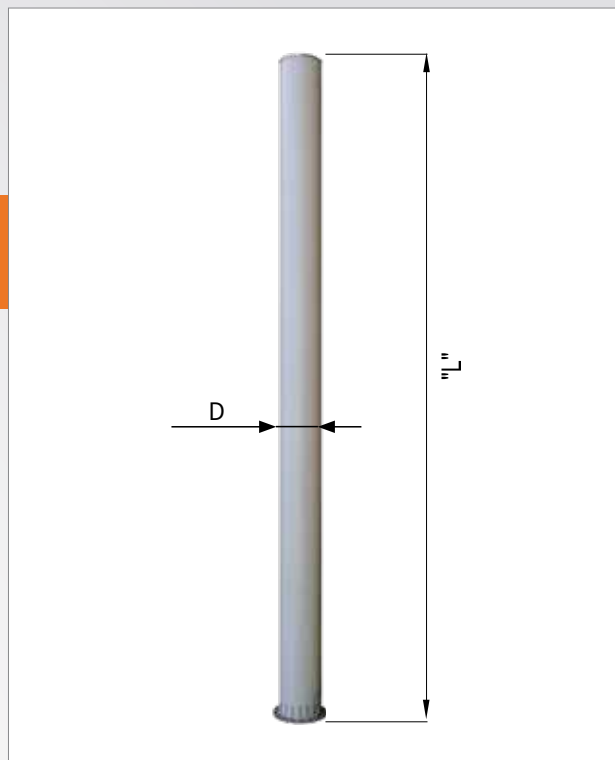
- horizontal polarization
- broadband 470 ÷ 860 MHz
- omnidirectional pattern
- self supporting radome

ELECTRICAL DATA

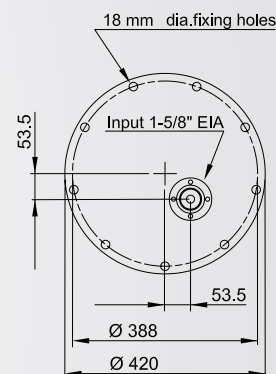
	NUMBER OF BAYS		
	1	2	4
ANTENNA TYPE	UTV-11/1	UTV-11/2	UTV-11/4
FREQUENCY RANGE	470 ÷ 860 MHz		
IMPEDANCE	50 ohm		
CONNECTOR	7/8" EIA	1-5/8" EIA	
MAX POWER	2 kW	5 kW	
VSWR	≤ 1.1		
POLARIZATION	Horizontal		
GAIN (referred to half wave dipole)	5 dB	8 dB	11 dB
LIGHTNING PROTECTION	All metal parts DC grounded		

MECHANICAL DATA

	NUMBER OF BAYS		
	1	2	4
DIAMETER radome "D" mm (in)	330 (13)	330 (13)	330 (13)
ANTENNA HEIGHT "L" mm (in)	1186 (46.7)	2286 (90)	5110 (201.2)
WEIGHT kg (lb)	40 (88)	60 (132)	135 (298)
WIND SURFACE m ² (ft ²)	0.39 (4.2)	0.75 (8.1)	1.69 (21.1)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.35 (78.7)	0.68 (153)	1.54 (346)
MAX WIND VELOCITY km/h (mph)	220 (136.7)		
MATERIALS	Brass, aluminium, stainless steel, galvanized steel, teflon, fiberglass (radome)		
ICING PROTECTION	Full radome		
RADOME COLOUR	Grey		
MOUNTING	Directly on top of existing mast by means of a flange		

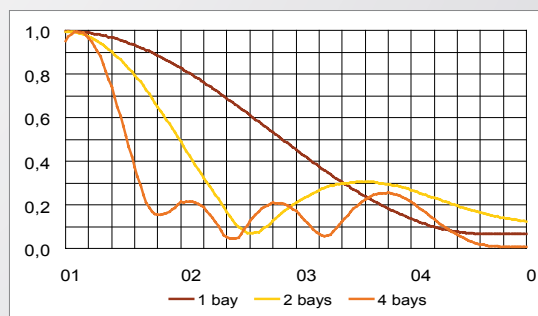
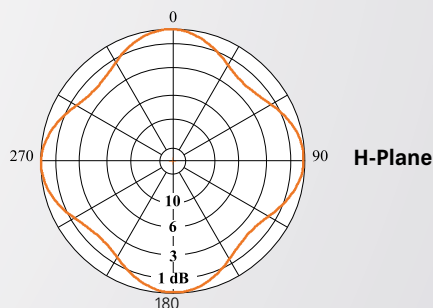


base referred to UTV-11/1
and UTV-11/2



base referred to
UTV-11/4

RADIATION PATTERNS (Mid Band)



V-Plane

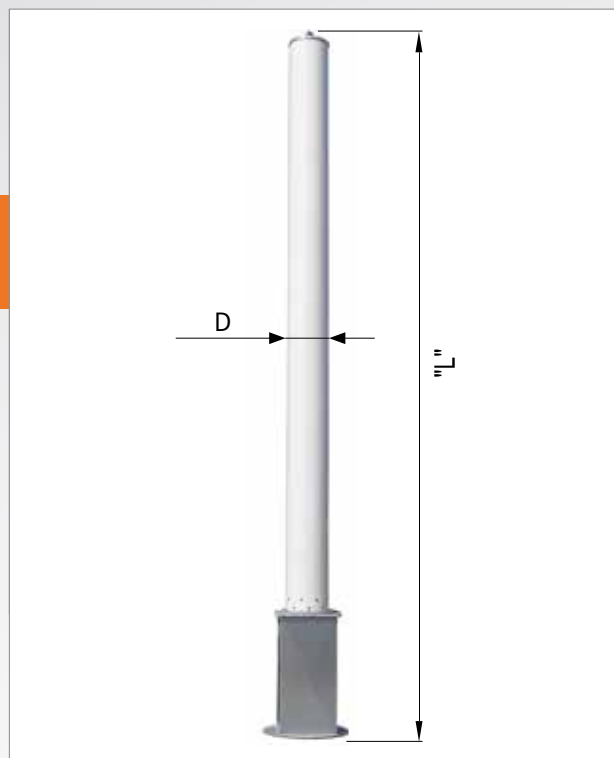
All dimensions are in millimeters

UTV-11/P

UHF SUPERTURNSTILE ANTENNA

FEATURES

- horizontal polarization
- broadband 470 ÷ 860 MHz
- omnidirectional pattern
- self supporting radome
- warning beacon available as optional

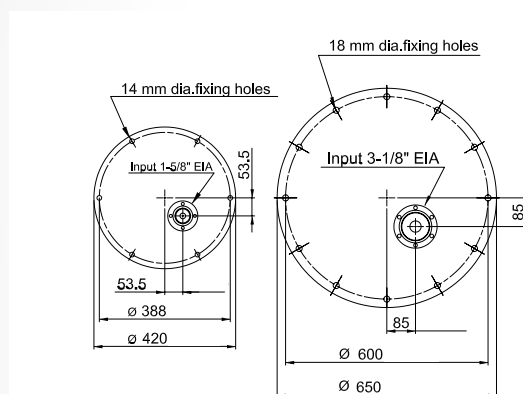


ELECTRICAL DATA

ANTENNA TYPE	UTV-11/2/P	UTV-11/4/P
FREQUENCY RANGE	470 ÷ 860 MHz	
IMPEDANCE	50 ohm	
CONNECTOR	1-5/8" EIA	3-1/8" EIA
MAX POWER	5 kW	10 kW
VSWR	≤ 1.1	
POLARIZATION	Horizontal	
GAIN (referred to half wave dipole)	8 dB	11 dB
LIGHTNING PROTECTION	All metal parts DC grounded	

MECHANICAL DATA

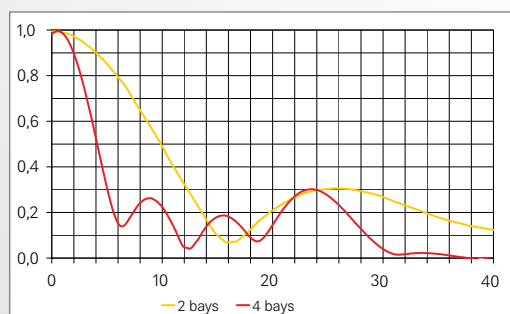
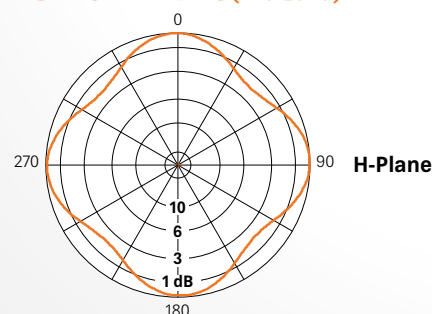
DIAMETER radome "D" mm (in)	330 (13)	330 (13)
ANTENNA HEIGHT "L" mm (in)	2902 (114.3)	5346 (210.5)
WEIGHT kg (lb)	73 (161)	230 (507)
WIND SURFACE m ² (ft ²)	0.96 (10.3)	1.85 (19.9)
WIND LOAD kN (lbf) at 160 km/h (100 mph)	0.86 (193)	1.79 (402)
MAX WIND VELOCITY km/h (mph)	220 (136.7)	
MATERIALS	Brass, aluminium, stainless steel, galvanized steel, teflon, fiberglass (radome)	
ICING PROTECTION	Full radome	
RADOME COLOUR	Grey	
MOUNTING	Directly on top of existing mast by means of a flange	



base referred
to UTV-11/2/P

base referred
to UTV-11/4/P

RADIATION PATTERNS (Mid Band)



V-Plane

All dimensions are in millimeters

SIRA WORLDWIDE

SIRA antenna systems are currently installed in more than 120 countries, making the company one of the world leaders in the Broadcasting Industry.

There are active SIRA antennas and combiners in:

AFGHANISTAN	FALKLANDS	MALDIVES	SINGAPORE
ALBANIA	FIJI	MALI	SLOVAKIA
ALGERIA	FINLAND	MALTA	SLOVENIA
ARGENTINA	FRANCE	MARQUIS ISLANDS	SOUTH AFRICA
ARUBA	FRENCH POLYNESIA	MARTNIQUE	SPAIN
AUSTRALIA	GABON	MAURITANIA	SRI LANKA
AUSTRIA	GEORGIA	MAYOTTE	ST. PIERRE &
BANGLADESH	GERMANY	MEXICO	MIQUELON
BENIN	GHANA	MOLDOVA	SUDAN
BOSNIA AND	GREECE	MONACO	SURINAME
HERZEGOVINA	GREENLAND	MONTENEGRO	SWEDEN
BOTSWANA	GUADALUPE	MOROCCO	SWITZERLAND
BRAZIL	GUATEMALA	MOZAMBIQUE	SYRIA
BULGARIA	GUYANA	MYANMAR	TAIWAN
BURKINA FASO	HAITI	NEPAL	TANZANIA
CAMBODIA	HONDURAS	NETHERLANDS	THAILAND
CANADA	HUNGARY	NEW CALEDONIA	TOGO
CAPE VERDE	INDIA	NEW ZEALAND	TUNISIA
CHAD	INDONESIA	NICARAGUA	TURKEY
CHILE	IRAN	NORWAY	UGANDA
CHINA	IRAQ	PAKISTAN	UKRAINE
COLOMBIA	IRELAND	PANAMA	UNITED ARAB
CONGO	ISRAEL	PARAGUAY	EMIRATES
COSTA RICA	ITALY	PERU	UNITED KINGDOM
COTE D'IVOIRE	JORDAN	PHILIPPINES	UNITED STATES
CROATIA	KAZAKHSTAN	POLAND	OF AMERICA
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KATHREIN Broadcast GmbH

Ing.-Anton-Kathrein-Str. 1-7

83101 Rohrdorf, Germany

www.kathrein-bca.com

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