



TIL-TEK Antennae



Solutions that Work



Affordable Quality



ISO 9001:2000



Reliability



Service



**TIL-TEK Antennae Inc.
P.O. Box 550
Kemptonville, Ontario
Canada
K0G 1J0**

December 7, 2006



Quality Management System (QMS):

As a leading supplier of communications solutions to a global marketplace, TIL-TEK is committed to achieving the highest possible quality in all of its products and services. Both our Manufacturing and Research & Development facilities in Canada are ISO 9001:2000 compliant and have been certified since 1996.

Quality is one of the cornerstones of customer value along with innovation, cost and service/support. All product leaves the plant having gone through a rigorous process with a final verification stamp indicating conformance to that process. TIL-TEK is an ISO 9001:2000 registered company. This worldwide standard covers our entire operation of the company from order entry to shipping, from product design to production. Quality will never be compromised either over the long term or for short term convenience.

TIL-TEK's Quality Management System (QMS) provides the guidance and controls for an effective process management system. By implementing and maintaining the QMS, we will consistently provide product that meets customer and applicable regulatory requirements.

Quality Policy:

TIL-TEK will strive to provide our customer with products and services that ensure a high level of customer loyalty and satisfaction. We are committed to a Quality Management System that supports and encourages a culture of customer focus, teamwork, continuous improvement and standards of excellence.

Quality Objectives:

Management has ensured its quality objectives are established and communicated within the company. The Quality Objectives are measurable and consistent with TIL-TEK's Quality Policy and include the requirements needed for planning product realization.

TIL-TEK is committed to:

- * Customer loyalty and satisfaction.
- * Product quality, delivery and service.
- * Continuous improvement of the Quality Management System.
- * Teamwork and standards of excellence.

2005-12-22

Warranty

The specifications on our product data sheets are for reference purposes only and may change at any time without prior notice. For exact specifications, the factory or an authorized representative should be contacted.

TIL-TEK products are warranted against defects in material and workmanship under normal use for a period of three years from the date of shipment from the factory. Authorization must be obtained from TIL-TEK prior to returning a product for warranty service and the product must be returned to TIL-TEK with all transportation charges prepaid. See RMA policy for details.

Warranty repair or replacement without charge will be made only after inspection at the factory shows a defect in material or workmanship. TIL-TEK will pay the return transportation charges, but all other expenses including duty, taxes, storage and all other transaction fees shall be paid by the customer. The warranty period shall not be extended beyond its original term with respect to any part or parts repaired or replaced by TIL-TEK.

TIL-TEK is in no event liable for consequential damages or other costs of any nature resulting from the use of the products it manufactures. TIL-TEK is not liable for replacement from the use of any products damaged by lightning. TIL-TEK is not liable for delays in or inability to fulfill contractual obligations when the causes thereof are beyond the reasonable control of TIL-TEK. TIL-TEK neither assumes nor authorizes any person to assume for it, any obligation or liability other than as herein expressly stated.

This limited warranty is in lieu of all other warranties, either expressed or implied.

2005-12-22

Return Material Authorization (RMA) Policy

TIL-TEK products are warranted against defects in material and workmanship under normal use for a period of three years from the date of shipment from the factory. A RMA number must be obtained from TIL-TEK prior to returning a product for warranty service. The product must be returned to TIL-TEK with all transportation charges prepaid.

Defective Antenna: Provided an antenna is found to be defective under the terms of the warranty, TIL-TEK will repair, replace and return the antenna at no charge to the customer.

No Fault Found: If, after evaluation, the antenna is found to still meet TIL-TEK's electrical and mechanical specifications:

- 1) The customer shall incur an evaluation charge of 25% of the list price or a minimum fee of \$80.00 CDN.
- 2) The customer is responsible to incur the return freight. The antenna will be returned via freight collect.

Note: If an advance replacement is sent and the returned antenna is found to have no fault, the customer will be invoiced for the new replacement and will incur the freight to have the antenna returned to them.

Products



TA-700 Series	698-806 MHz
TA-800 Series	806-960 MHz
TA-900 Series	901-940 MHz
TA-1400 Series	1425-1535 MHz
TA-1800 Series	1850-1990 MHz
TA-1880 Series	1880-1930 MHz
TA-2100 Series	2150-2700 MHz
TA-2300 Series	2300-2500 MHz
TA-2400 Series	2400-2483 MHz
TA-2500 Series	2485-2690 MHz
TA-3400 Series	3400-3700 MHz
TA-4900 Series	4940-4990 MHz
TA-5200 Series	5250-5875 MHz
TA-5400 Series	5470-5875 MHz
TA-5700 Series	5725-5875 MHz

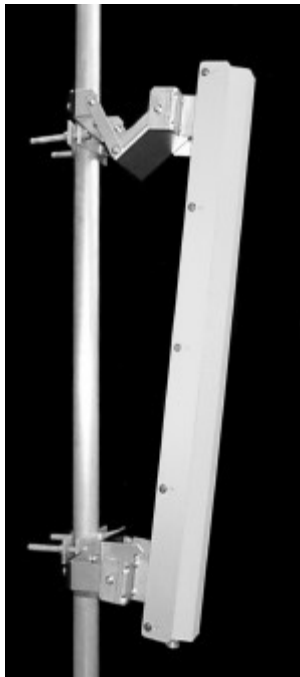
2006-01-31



TA-2304-2-DAB

Medium Power Adjustable Sector

2330-2345 MHz



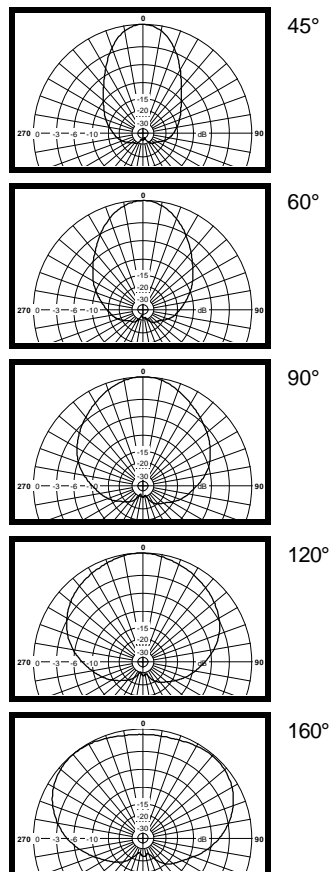
The TA-2304-2-DAB is a medium power vertically polarized sectoral antenna specifically designed for Digital Audio Broadcast transmission. The antenna is designed to provide field adjustable azimuth beamwidths of 45, 60, 90, 120, or 160 degrees by use of side panels. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2330-2345 MHz
- Gain:** 17 dBi @ 45°, 16 dBi @ 60°, 14 dBi @ 90°
13 dBi @ 120°, 11.5 dBi @ 160°
- VSWR:** 1.3:1 max.
- Front to Back Ratio:** 15 dB @ 180° +/- 35°
- Polarization:** Vertical
- Power Rating:** 200 W avg., 800 W peak
- H-Plane Beamwidth:** 45°, 60°, 90°, 120°, 160°
- E-Plane Beamwidth:** 7.5 degrees
- Cross Pol. Discrimination:** 15 dB
- Impedance:** 50 ohms nominal
- Termination:** 7/16 DIN female

Typical mid band values. (For details, contact factory)
Specifications subject to change without notice

H-Plane



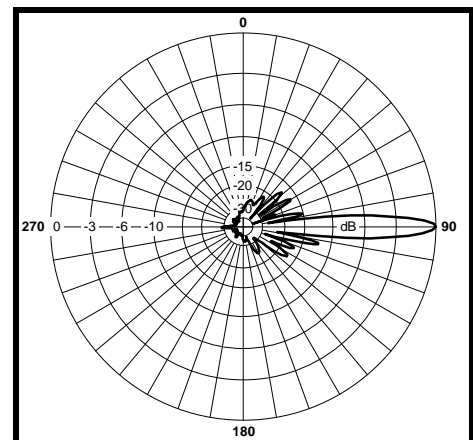
Mechanical Specifications

- Length:** 39.5 in. (1003 mm)
- Width:** 6.5 in. (165 mm) with 45° side panels
5.0 in. (127 mm) without 45° side panels
- Depth:** 3.5 in. (89 mm)
- Weight (incl. Clamps):** 8 lb. (3.6 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 86 lb. (39 kg)
with 45° side panels: 113 lb. (51 kg)
- Mechanical Tilt:** +5° to -15°
- Mounting (O.D.):** 0.75 - 3.0 in. (19 - 76 mm)

Materials

- Radiating Elements:** Tin Plated copper on PCB
- Reflector:** Irridated aluminum
- Radome:** Gray UV stabilized ASA
- Clamps:** Aluminum and HDG steel

E-Plane



Rev. 1.1

2001-11-01

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Canada



ISO 9001:2000
CGSB Registered
Certificate 961004

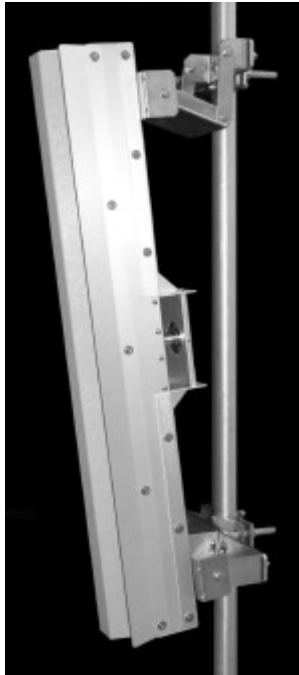
T: 613-258-5928
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F: 613-258-7418
www.tiltek.com



TA-2304-2-DAB-H

High Power Adjustable Sector

2330-2345 MHz



The TA-2304-2-DAB-H is a high power vertically polarized sectoral antenna specifically designed for Digital Audio Broadcast transmission. The antenna is designed to provide field adjustable azimuth beamwidths of 45, 60, 90, 120, or 160 degrees by use of side panels. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2330-2345 MHz
- Gain:** 18 dBi @ 45°, 17 dBi @ 60°, 15 dBi @ 90°
14 dBi @ 120°, 13 dBi @ 160°
- VSWR:** 1.3:1 max.
- Front to Back Ratio:** 15 dB min.
- Polarization:** Vertical
- Power Rating:** 2000 W avg., 8000 W peak
- H-Plane Beamwidth:** 45°, 60°, 90°, 120°, 160°
- E-Plane Beamwidth:** 7 degrees
- Cross Pol. Discrimination:** 20 dB
- Impedance:** 50 ohms nominal
- Termination:** 7/8" EIA Flange

Typical mid band values. (For details, contact factory)
Specifications subject to change without notice

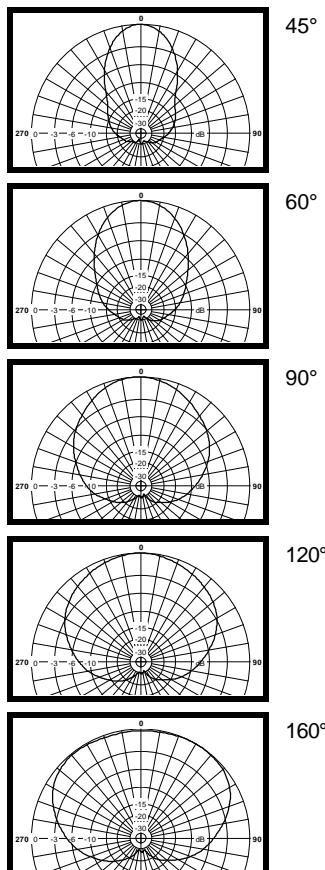
Mechanical Specifications

- Length:** 39.4 in. (1001 mm)
- Width:** 6.5 in. (165 mm) with 45° side panels
5.0 in. (127 mm) without 45° side panels
- Depth:** 9.0 in. (228.6 mm)
- Weight (incl. Clamps):** 31 lb. (14.1 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 86 lb. (39 kg)
with 45° side panels: 111 lb. (50.4 kg)
- Mechanical Tilt:** 0° +/- 11.5°
- Mounting (O.D.):** 0.75 - 3.0 in. (19 - 76 mm)

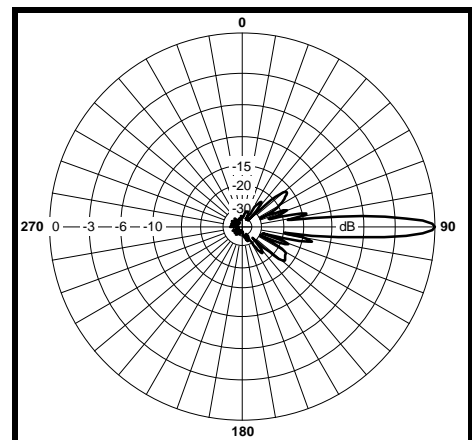
Materials

- Radiating Elements:** Tin Plated copper on PCB
- Reflector:** Irridated aluminum
- Radome:** Gray UV stabilized ASA
- Clamps:** Stainless and HDG steel

H-Plane



E-Plane



Rev. 1.1

2002-03-27

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TA-2304-DAB

Medium Power Adjustable Sector

2330-2345 MHz



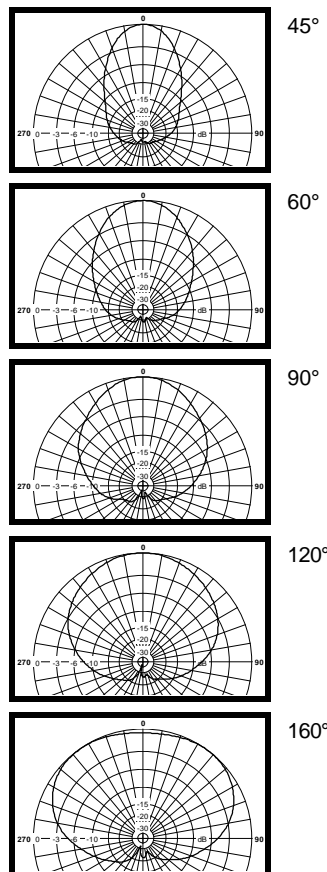
The TA-2304-DAB is a medium power vertically polarized sectoral antenna specifically designed for Digital Audio Broadcast transmission. The antenna is designed to provide field adjustable azimuth beamwidths of 45, 60, 90, 120, or 160 degrees by use of side panels. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2330-2345 MHz
- Gain:** 15dBi @45°, 14dBi @60°, 12.5dBi @90°
12dBi @120°, 10.5dBi @160°
- VSWR:** 1.4:1 max.
- Front to Back Ratio:** 20 dB @ 180° +/- 35°
- Polarization:** Vertical
- Power Rating:** 200 W avg., 800 W peak
- H-Plane Beamwidth:** 45°, 60°, 90°, 120°, 160°
- E-Plane Beamwidth:** 15 degrees
- Cross Pol. Discrimination:** 15 dB
- Impedance:** 50 ohms nominal
- Termination:** 7/16 DIN female

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

H-Plane



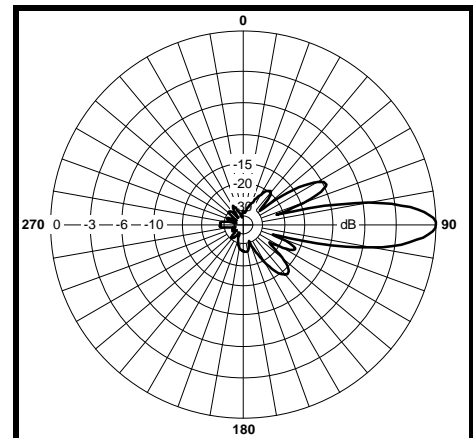
Mechanical Specifications

- Length:** 20.5 in. (521 mm)
- Width:** 6.5 in. (165 mm) with 45° side panels
4.9 in. (124 mm) without 45° side panels
- Depth:** 3.5 in. (89 mm)
- Weight (incl. Clamps):** 6 lb. (2.7 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 44 lb. (20 kg)
with 45° side panels: 56 lb. (25 kg)
- Mechanical Tilt:** +5° to -15°
- Mounting (O.D.):** 0.75 - 3.0 in. (19 - 76 mm)

Materials

- Radiating Elements:** Tin plated copper on PCB
- Reflector:** Irridated aluminum
- Radome:** Gray UV stabilized ASA
- Clamps:** Irridated aluminum and HDG steel

E-Plane





TA-2305-2-DAB-H

High Power Adjustable Sector

2305-2360 MHz



The TA-2305-2-DAB-H is a high power vertically polarized sectoral antenna specifically designed for Digital Audio Broadcast transmission. The antenna is designed to provide field adjustable azimuth beamwidths of 45, 60, 90, 120, or 160 degrees by use of side panels. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2305-2360 MHz
- Gain:** 18 dBi @ 45°, 17 dBi @ 60°, 15 dBi @ 90°
14 dBi @ 120°, 13 dBi @ 160°
- VSWR:** 1.3:1 max.
- Front to Back Ratio:** 15 dB min.
- Polarization:** Vertical
- Power Rating:** 2000 W avg., 8000 W peak
- H-Plane Beamwidth:** 45°, 60°, 90°, 120°, 160°
- E-Plane Beamwidth:** 7 degrees
- Cross Pol. Discrimination:** 20 dB
- Impedance:** 50 ohms nominal
- Termination:** 7/8" EIA Flange

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

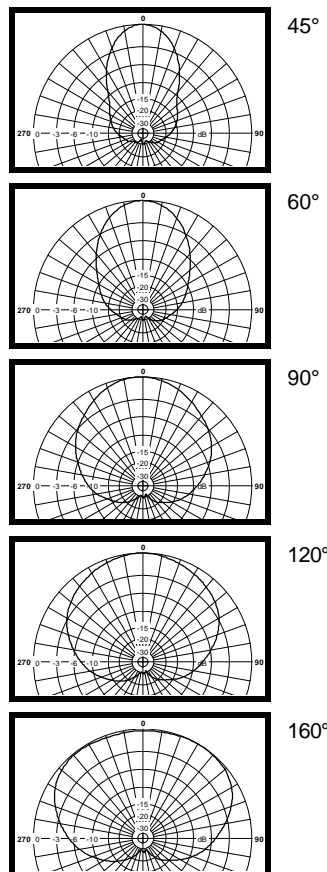
Mechanical Specifications

- Length:** 39.4 in. (1001 mm)
- Width:** 6.5 in. (165 mm) with 45° side panels
5.0 in. (127 mm) without 45° side panels
- Depth:** 9.0 in. (228.6 mm)
- Weight (incl. Clamps):** 31 lb. (14.1 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 86 lb. (39 kg)
with 45° side panels: 111 lb. (50.4 kg)
- Mechanical Tilt:** 0° +/- 11.5°
- Mounting (O.D.):** 0.75 - 3.0 in. (19 - 76 mm)

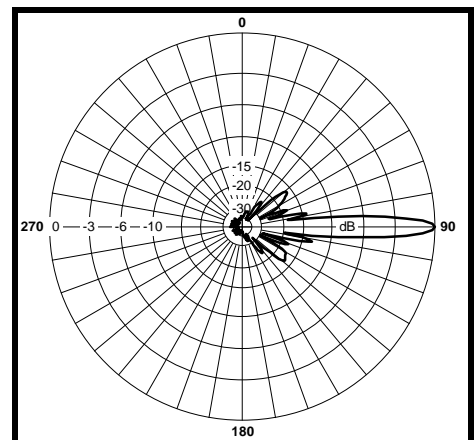
Materials

- Radiating Elements:** Tin Plated copper on PCB
- Reflector:** Irridated aluminum
- Radome:** Gray UV stabilized ASA
- Clamps:** Stainless and HDG steel

H-Plane



E-Plane



Rev. 1.2

2006-03-23

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TA-2324-LHCP

Circularly Polarized Solid Parabolic

2330-2345 MHz



The TA-2324-LHCP is a left hand circular polarized solid parabolic intended specifically as a receive antenna for satellite signals. An optional shroud is available to further reduce the front to back ratio to 40 dB for improved interference performance. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

Frequency Range: 2330-2345 MHz
Gain: 21 dBic
VSWR: 1.3:1 max.
Front to Back Ratio: 25 dB @ 180° +/- 35°
40 dB opt. @ 180° +/- 35°
Polarization: Left Hand Circular
Power Rating: 200 Watts
Elevation Beamwidth: 13.5 degrees
Axial Ratio: 2.5 dB
Cross Pol. Discrimination: 15 dB min.
Impedance: 50 ohms nominal
Termination: 7/16 DIN female

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

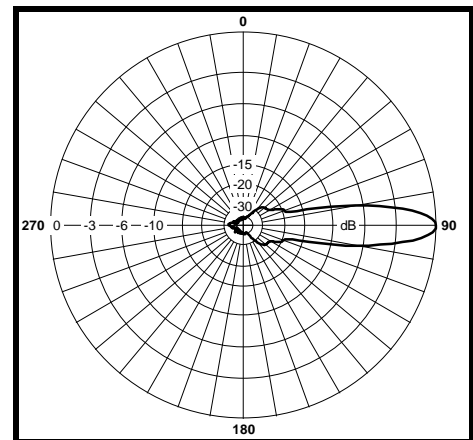
Mechanical Specifications

Diameter: 26 in. (660 mm)
Weight (Incl. clamps): 26 lb. (12.7 kg)
with 3" shroud: 31 lb. (14.06 kg)
Rated Wind Velocity: 125 mph (200 km/h)
Hor. Thrust at rated wind: 127 lb. (57.6 kg)
Mechanical Tilt: +25° to +60°
Mounting (O.D.): 1.75 - 4.0 in. (44.5 - 102 mm)

Materials

Radiating Elements: Tin plated copper on PCB
Reflector: Painted Aluminum
Radome: Gray ASA UV stabilized
Clamps: HDG steel

Elevation



TA-2335-DAB-H

High Power Sector

2330-2345 MHz



The TA-2335-DAB-H is a high power vertically polarized sectoral antenna specifically designed for Digital Audio Broadcast transmission. The antenna is also designed to provide a shaped azimuth beamwidth of 95 degrees by use of shaped reflector phasing enabling multi-sector applications. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

Frequency Range: 2330-2345 MHz
Gain: 15 dBi
VSWR: 1.4:1 min.
Front to Back Ratio: 20 dB
Polarization: Vertical
Power Rating: 1000 W avg. 4000 W peak
H-Plane Beamwidth: 95° @ -3dB, 120° @ -10dB
E-Plane Beamwidth: 7 degrees
Cross Pol. Discrimination: 20 dB
Impedance: 50 ohms nominal
Termination: 7/16 DIN female

Mechanical Specifications

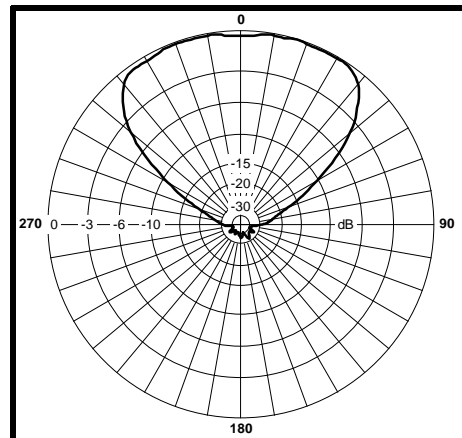
Length: 38 in. (965 mm)
Width: 21 in. (533 mm)
Depth: 8 in. (203 mm)
Weight (incl. Clamps): 33 lb. (15 kg)
Rated Wind Velocity: 125 mph (200 km/h)
Hor. Thrust at rated wind: 344 lb. (156 kg)
Mechanical Tilt: +5° to -15°
Mounting (O.D.): 0.75 - 3.0 in. (19 - 76 mm)

Materials

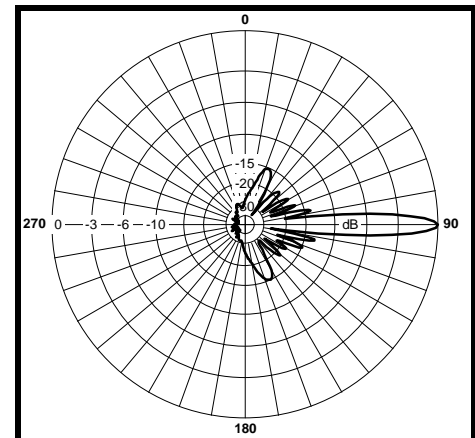
Radiating Elements: Gold-plated copper on PCB
Reflector: Irridited aluminum
Radome: Gray UV stabilized ASA
Clamps: HDG steel

Typical mid band values. (For details , contact factory)
 Specifications subject to change without notice

H-Plane



E-Plane

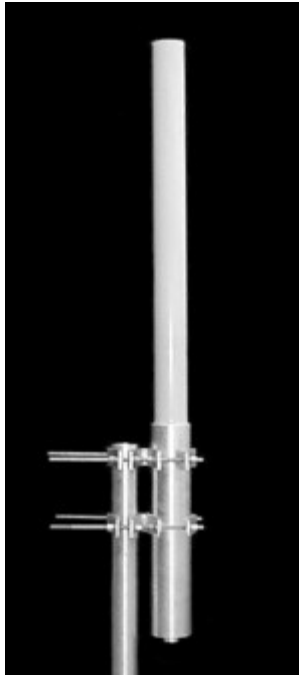




TA-2350-DAB

Medium Power Omnidirectional

2330-2345 MHz



The TA-2350-DAB is a medium power vertically polarized omnidirectional antenna specifically designed for Digital Audio Broadcast transmission. The antenna consists of a phased corporately fed broadband dipole array which is configured to provide electrical beam downtilt and null fill. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2330-2345 MHz
- Gain:** 10 dBi
- VSWR:** 1.4:1 max.
- Polarization:** Vertical
- Power Rating:** 200 W avg., 800 W peak
- H-Plane Beamwidth:** 360 degrees
- E-Plane Beamwidth:** 8 degrees
- Electrical Downtilt:** 2, 4, 6 degrees
- Cross Pol. Discrimination:** 20 dB min.
- Null Fill:** -20 dB (1st Null)
- Impedance:** 50 ohms nominal
- Termination:** 7/16 DIN female

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

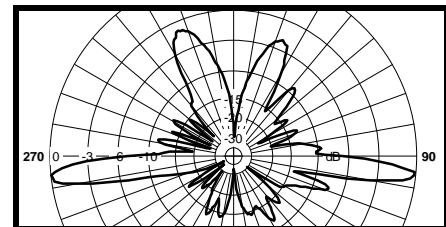
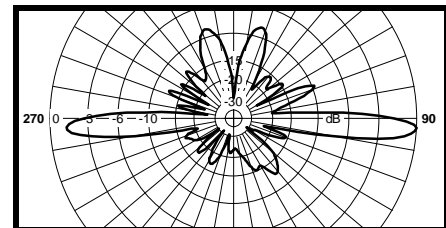
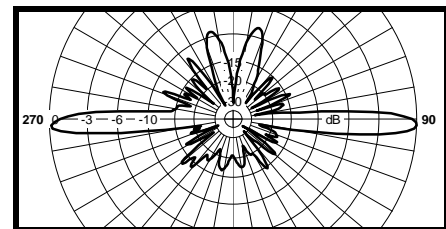
Mechanical Specifications

- Length:** 70 in. (1778 mm)
- Diameter:** 2.25 in. (57 mm)
- Weight (Incl. Clamps):** 15 lb. (6.8 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 31 lb. (14 kg)
- Mounting (O.D.):** 1.75 - 4.0 in. (44.5 - 102 mm)

Materials

- Radiating Elements:** Nickel plated copper array
- Radome:** Gray UV stabilized fiberglass
- Clamps:** HDG steel

E-Plane

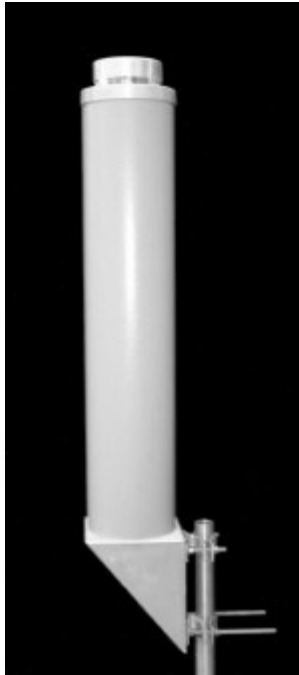




TA-2350-DAB-H

High Power Omnidirectional

2330-2345 MHz



The TA-2350-DAB-H is a high power vertically polarized omnidirectional antenna specifically designed for Digital Audio Broadcast transmission. The antenna consists of a phased corporately fed broadband dipole array which is configured to provide electrical beam downtilt and null fill. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2330-2345 MHz
- Gain:** 10 dBi
- VSWR:** 1.4:1 max.
- Polarization:** Vertical
- Power Rating:** 2000 W avg., 8000 W peak
- H-Plane Beamwidth:** 360 degrees
- E-Plane Beamwidth:** 8 degrees
- Electrical Downtilt:** 2, 4, 6 degrees
- Cross Pol. Discrimination:** 13 dB
- Null Fill:** -20 dB (1st Null)
- Impedance:** 50 ohms nominal
- Termination:** 7/8" EIA Flange

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

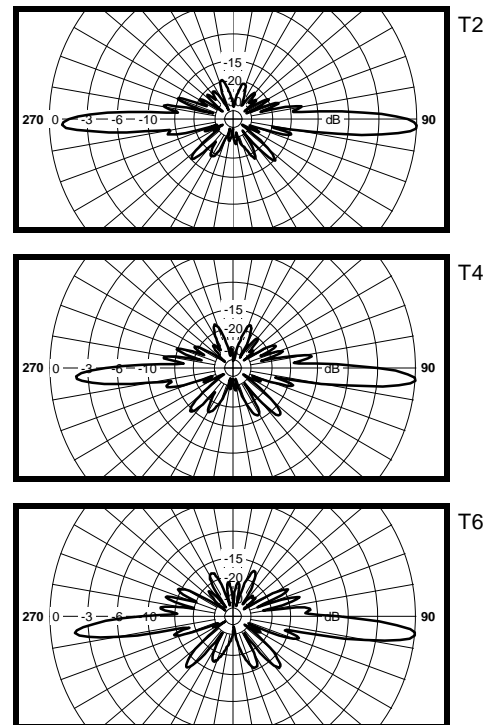
Mechanical Specifications

- Length:** 64 in. (1625 mm)
- Diameter:** 8 in. (203 mm)
- Weight (Incl. Clamps):** 49 lb. (22.3 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 148 lb. (67 kg)
- Mounting (O.D.):** 1.75 - 4.0 in. (44.5 - 102 mm)

Materials

- Radiating Elements:** Tin-plated copper on PCB
- Radome:** Gray UV stabilized fiberglass
- Clamps:** HDG steel

E-Plane





TA-2355-DAB-H

High Power Omnidirectional

2305-2360 MHz



The TA-2355-DAB-H is a high power vertically polarized omnidirectional antenna specifically designed for Digital Audio Broadcast transmission. The antenna consists of a phased corporately fed broadband dipole array which is configured to provide electrical beam downtilt and null fill. The antenna elements are at DC ground to aid in lightning protection.

Electrical Specifications

- Frequency Range:** 2305-2360 MHz
- Gain:** 10 dBi
- VSWR:** 1.4:1 max.
- Polarization:** Vertical
- Power Rating:** 2000 W avg., 8000 W peak
- H-Plane Beamwidth:** 360 degrees
- E-Plane Beamwidth:** 8 degrees
- Electrical Downtilt:** 2, 4, 6 degrees
- Cross Pol. Discrimination:** 13 dB
- Null Fill:** -20 dB (1st Null)
- Impedance:** 50 ohms nominal
- Termination:** 7/8" EIA Flange

Typical mid band values. (For details , contact factory)
Specifications subject to change without notice

Mechanical Specifications

- Length:** 64 in. (1625mm)
- Diameter:** 8 in. (1625mm)
- Weight (Incl. Clamps):** 49 lb. (22.3 kg)
- Rated Wind Velocity:** 125 mph (200 km/h)
- Hor. Thrust at rated wind:** 148 lb. (67 kg)
- Mounting (O.D.):** 1.75 - 4.0 in. (44.5 - 102mm)

Materials

- Radiating Elements:** Tin-plated copper on PCB
- Radome:** Gray UV stabilized fiberglass
- Clamps:** HDG steel

E-Plane

