

File # SAT- STA- 200 90930 - 00102

Call Sign (or other identifier) Grant Date 11/05/09

Term Dates see attached Approved by OMB 3060-0678

From 11/05/09 To: conditions

Approved: Stephen J. Duall

Stephen J. Duall Chief, Policy Branch



Date & Time Filed: Sep 30 2009 4:46:19:673PM
File Number: SAT-STA-20090930-00102
Callsign:

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Request for Special Temporary Authority to Operate a Low Power Terrestrial Repeater in Las Vegas, Nevada for 180 Days

1. Applicant

Name:	XM Radio Inc.	Phone Number:	202-380-4000
DBA Name:		Fax Number:	202-380-4981
Street:	1500 Eckington Place, NE	E-Mail:	james.blitz@siriusxm.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20002 -
Attention:	James S. Blitz		

Attachment to Grant
Application of XM Radio Inc. for Special Temporary Authority
IBFS File No. SAT-STA-20090930-00102

Special temporary authority (STA) is granted to XM Radio Inc. (XM) to operate a terrestrial repeater with an Effective Isotropically Radiated Power (EIRP) of up to 2,000 watts (average) in Las Vegas, Nevada, at the Tropicana Hotel, for a period of 180 days. This authorization is granted according to the technical parameters specified in XM's application and is subject to the conditions below.

1. Any actions taken as a result of this STA are solely at the applicant's own risk. This STA shall not prejudice the outcome of the final rules adopted by the Commission in IB Docket No. 95-91. The issue concerning EIRP raised by the WCS Coalition will be addressed in that proceeding. Operations prior to such action will be subject to condition 2 below.
2. Operation of the terrestrial repeater is authorized pursuant to this STA on a non-interference basis with respect to all permanently authorized radiocommunication facilities. XM shall provide the information and follow the process set forth in paragraphs 14 and 17 in 16 FCC Rcd 16773 (Int'l Bur. 2001) and 16 FCC Rcd 16781 (Int'l Bur. 2001), as modified by 16 FCC Rcd 18481 (Int'l Bur. 2001) and 16 FCC Rcd 18484 (Int'l Bur. 2001).
3. The terrestrial repeater is restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS subscribers' receivers.
4. Coordination of the operations of the terrestrial repeater shall be completed with all affected Administrations prior to operation, in accordance with all applicable international agreements including those with Canada and Mexico.
5. The terrestrial repeater shall comply with Part 17 of the Commission's rules – Construction, Marking, and Lighting of Antenna Structures.
6. The terrestrial repeater shall comply with Part 1 of the Commission's rules, Subpart I – Procedures Implementing the National Environmental Policy Act of 1969, including the guidelines for human exposure to radio frequency electromagnetic fields as defined in Sections 1.1307(b) and 1.1310 of the Commission's rules.
7. The terrestrial repeater's out-of-band emissions shall be limited to 75+ 10log(EIRP) dB less than the transmitter EIRP.
8. This STA expires after 180 days, or on the date on which permanent rules governing repeater operations become effective, whichever occurs first.
9. XM is granted 30 days from the date of the release of this authorization to decline the authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.
10. This action is taken on delegated authority pursuant to 47 C.F.R. § 0.261 and is effective upon release. Petitions for reconsideration under 47 C.F.R. § 1.106 or applications for review under 47 C.F.R. § 1.115 may be filed within 30 days of the date of the Public Notice announcing this action.



*subject to conditions

File # SAT-STA-20090930-00102

Call Sign _____ Grant Date 11/05/09
(or other identifier)

From 11/05/09 Term Dates see conditions
To: _____

Approved: Stephen J. Duall
Stephen J. Duall
Chief, Policy Branch

2. Contact			
Name:	James S. Blitz	Phone Number:	202-380-4000
Company:	Sirius XM Radio Inc.	Fax Number:	202-380-4981
Street:	1500 Eckington Place NE	E-Mail:	james.blitz@siriusxm.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20002 -
Attention:		Relationship:	Same
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number or Submission ID			
4a. Is a fee submitted with this application?			
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).			
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee			
<input type="radio"/> Other (please explain):			
4b. Fee Classification CRY - Space Station (Geostationary)			
5. Type Request			
<input type="radio"/> Change Station Location		<input type="radio"/> Extend Expiration Date	
		<input checked="" type="radio"/> Other	
6. Temporary Orbit Location		7. Requested Extended Expiration Date	

8. Description (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

XM Radio Inc. requests Special Temporary Authority to operate a low power terrestrial repeater in Las Vegas, Nevada for 180 days pursuant to the technical parameters listed in Exhibit A.

9. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.

Yes No

10. Name of Person Signing
James S. Blitz

11. Title of Person Signing
Vice President, Regulatory Counsel

12. Please supply any need attachments.

Attachment 1: STA Request

Attachment 2:

Attachment 3:

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

SIRIUS XM

RADIO INC.

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Washington, D.C. 20002
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www.sirius.com www.xmradio.com

September 30, 2009

Via IBFS

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: XM Radio Inc.
Request for 180-Day Special Temporary Authority to Operate
A Low Power Repeater in Las Vegas, Nevada**

Dear Ms. Dortch:

Pursuant to Section 25.120(b)(2) of the Commission's rules, 47 C.F.R. § 25.120(b)(2), XM Radio Inc. ("XM"),¹ a satellite radio licensee in the Satellite Digital Audio Radio Service, hereby requests 180-Day Special Temporary Authority ("STA") to operate in its licensed frequency band one low power terrestrial repeater with an Effective Isotropically Radiated Power ("EIRP") of up to 2000 watts.² XM seeks authority to operate this terrestrial repeater from the Tropicana Hotel in Las Vegas.

The Commission has recognized that SDARS operators require terrestrial repeaters to provide high-quality service nationwide.³ Consistent with this policy, in September 2001, the Bureau granted

¹ Pursuant to the merger to which the Commission consented in *Applications of XM Satellite Radio Holdings Inc. and Sirius Satellite Radio Inc. for Consent to Transfer Control of Licenses*, Memorandum Opinion and Order and Report and Order, 23 FCC Rcd 12348 (2008), XM is the parent company of XM Radio Inc. Satellite CD Radio Inc., the corporate entity holding Sirius's satellite authorizations, is also a subsidiary of XM.

² On September 30, 2009, XM filed a request to operate the same repeater under 60-Day Special Temporary Authority pursuant to Section 25.120(b)(3) of the Commission's rules. See FCC File No. SAT-STA-20090930-00101. That request remains pending.

³ See *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 5754, 5770 ¶ 37 (1997).

STAs to XM to operate a nationwide network of terrestrial repeaters.⁴ In the years since, the Bureau has granted XM additional STAs to operate terrestrial repeaters, pending issuance of final rules governing the deployment and use of repeaters.⁵

Public Interest Considerations. This repeater replaces one that XM recently discontinued operating. Granting the instant STA will serve the public interest by allowing XM to promptly resume service using this repeater, thereby minimizing the disruption of service to residents of Las Vegas and ensuring their continued ability to receive high quality satellite radio service.

Technical Information for the New Low Power Repeaters. The following technical information pertaining to the repeater is provided in Exhibit A: (1) antenna type; (2) antenna orientation; (3) average EIRP; (4) height above ground level (“AGL”); and (5) antenna downtilt.⁶ Exhibits B and C consist respectively, of Google™ satellite images and topographic maps showing the location of the proposed facilities. The specification sheet for the antennas to be used by the repeaters is attached as Exhibit D.

Interference Considerations. The new low power repeater will operate at an average EIRP of less than 2000 watts. Because XM has exclusive use of its licensed band, it is highly unlikely that this new low power repeater will create interference to other licensees. To the extent XM’s original 2001 STAs require it to coordinate with affected Wireless Communications Services (“WCS”) licensees prior to operating any repeater, XM is not aware of any operational WCS facilities in the Las Vegas area.⁷ Moreover, as the Bureau acknowledged in granting XM’s original repeater STA requests, the WCS licensees have confirmed that operating terrestrial repeaters at an EIRP of 2 kW

⁴ *XM Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, Order and Authorization*, 16 FCC Rcd. 16781 ¶ 18 (2001) (“*XM STA Order*”).

⁵ *See, e.g., XM Radio, Inc.; Request for Special Temporary Authority to Operate Additional Satellite Digital Audio Radio Service Terrestrial Repeaters, Order and Authorization*, 19 FCC Rcd. 18140 (2004) (granting XM an STA in File No. SAT-STA-20031112-00371, effective Sept. 15, 2004); *Public Notice*, 2002 FCC Lexis 5670 (rel. Oct. 30, 2002) (granting XM an STA in File No. SAT-STA-20020815-00153, effective Sept. 30, 2002); *Public Notice*, 2003 FCC Lexis 4803 (rel. Aug. 29, 2002) (granting XM an STA in File No. SAT-STA-20030409-00076, effective June 26, 2003). XM has filed applications to renew its STAs, and those renewal applications remain pending.

⁶ For purposes of XM’s repeater STA applications, “antenna downtilt” refers to an antenna’s mechanical downtilt, without reference to any electrical downtilt built into the antenna.

⁷ *See XM STA Order* ¶ 14. Despite the Bureau’s statement in the *XM STA Order* (at ¶ 14) that it expects “WCS licensees to provide a schedule or as much advance notice as possible of when their stations are to be placed in operation,” XM has not received information directly from any WCS licensee regarding plans for WCS deployment in these markets. Moreover, XM’s own review of “substantial service” filings do not show any operational WCS stations in this market.

or less is not an interference concern.⁸ However, if prohibited interference does occur, XM will cease operation of the new repeater until such interference can be eliminated.⁹

Ownership and Control of Repeaters. XM will own the new low power repeater and it will be responsible for the repeater's installation and operation.

Certifications. XM certifies that it will operate the new low power repeaters subject to the conditions and certifications set forth in the *Sirius STA Order* and *XM STA Order* granting XM's September 2001 requests for STAs to operate terrestrial repeaters. Specifically, XM certifies the following:

- (1) XM will operate this repeater at its own risk, and such operation shall not prejudice the outcome of the final rules adopted by the Commission in GEN Docket 95-91;
- (2) XM will operate these facilities on a non-interference basis with respect to all permanently authorized radiocommunication facilities;
- (3) The facilities will be restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS receivers;
- (4) Where applicable, coordination of the facilities will be completed with all affected Administrations prior to operation, in accordance with all applicable international agreements including those with Canada and Mexico;
- (5) The facilities will comply with Part 17 of the Commission's rules – Construction, Marking, and Lighting of Antenna Structures;

⁸ *XM STA Order* ¶ 12 (“The comments from WCS licensees express concern about blanketing interference from DARS repeaters that operate with an Equivalent Isotropically Radiated Power (EIRP) above 2 kW.”). Moreover, in March 2007, the WCS Coalition said that it will defer from objecting to STA requests that propose operations of no more than 2,000 watts EIRP, even if they do not specify peak or average EIRP, provided that grant of the STA (i) is conditioned on operation on a non-interference basis; and (ii) is subject to the condition that the issue of peak versus average EIRP will be addressed in the pending DARS rulemaking (IB Docket No. 95-91). *See* Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Ms. Helen Domenici, FCC, File No. SAT-STA-20061207-00145 (March 19, 2007). XM agrees to these conditions.

⁹ This repeater's design includes several automated shutdown mechanisms that are triggered in the event of equipment major malfunctions. The transmit chain also includes a transmit output coupler which feeds a self-monitoring system detecting any transmission anomalies. Any such anomalies are automatically reported back to XM's National Repeater Control Center (202-380-4725), which is available on a continuous basis to receive any reports of any suspected interference and take immediate corrective action.

- (6) The facilities will comply with Part 1 of the Commission's rules, Subpart I - Procedures Implementing the National Environmental Policy Act of 1969, including the guidelines for human exposure to radio frequency electromagnetic fields as defined in Sections 1.1307(b) and 1.1310 of the Commission's rules;
- (7) The out-of-band emissions of the facility will be limited to $75+10\log$ (EIRP) dB less than the transmitter EIRP;
- (8) XM will operate this repeater according to the technical parameters provided in this application;
- (9) XM will maintain full ownership and operational control of this repeater; and
- (10) XM will immediately shut down this repeater upon a complaint of interference, upon direction from the Commission, or upon finding that a facility has not been properly installed.


Granting this request will not alter XM's obligation to protect authorized radiocommunications facilities from interference, and it will not prejudice the outcome of the Commission's ongoing rulemaking pertaining to the deployment and operation of terrestrial repeaters.

XM hereby certifies that no party to this application is subject to a denial of Federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 853(a).

XM is submitting payment to the Federal Communications Commission in the amount of Eight Hundred Thirty Dollars (\$830.00) -- the filing fee applicable to requests for STAs for geostationary ("GSO") satellites.¹⁰

Please direct any questions regarding this matter to the undersigned.

Very truly yours,



James S. Blitz
Vice President, Regulatory Counsel

¹⁰ See International and Satellite Services Fee Filing Guide (February 2009).

Ms. Marlene H. Dortch
September 30, 2009
Page 5

cc: Stephen Duall, FCC International Bureau
Jay Whaley, FCC International Bureau
Sankar Persaud, FCC International Bureau

Exhibit A

Technical parameters for repeaters

CITY	ANTENNA NUMBER	SITE LATITUDE (N)	SITE LONGITUDE (W)	ANTENNA TYPE	ANTENNA ORIENTATION (AZIMUTH)	ANTENNA HEIGHT (FT. AGL)	ANTENNA DOWNTILT (DEGREES)	TOTAL AVERAGE EIRP(W)
Las Vegas, NV	L VX-003A	36-05-59	115-10-19	TA-2304-2-DAB-H(90)	190	243	0	2000

Exhibit B

Google™ Satellite Image of Repeater Location

XM LVX-003A



Exhibit C

Topographic Map of Repeater Location

XM LVX-003A

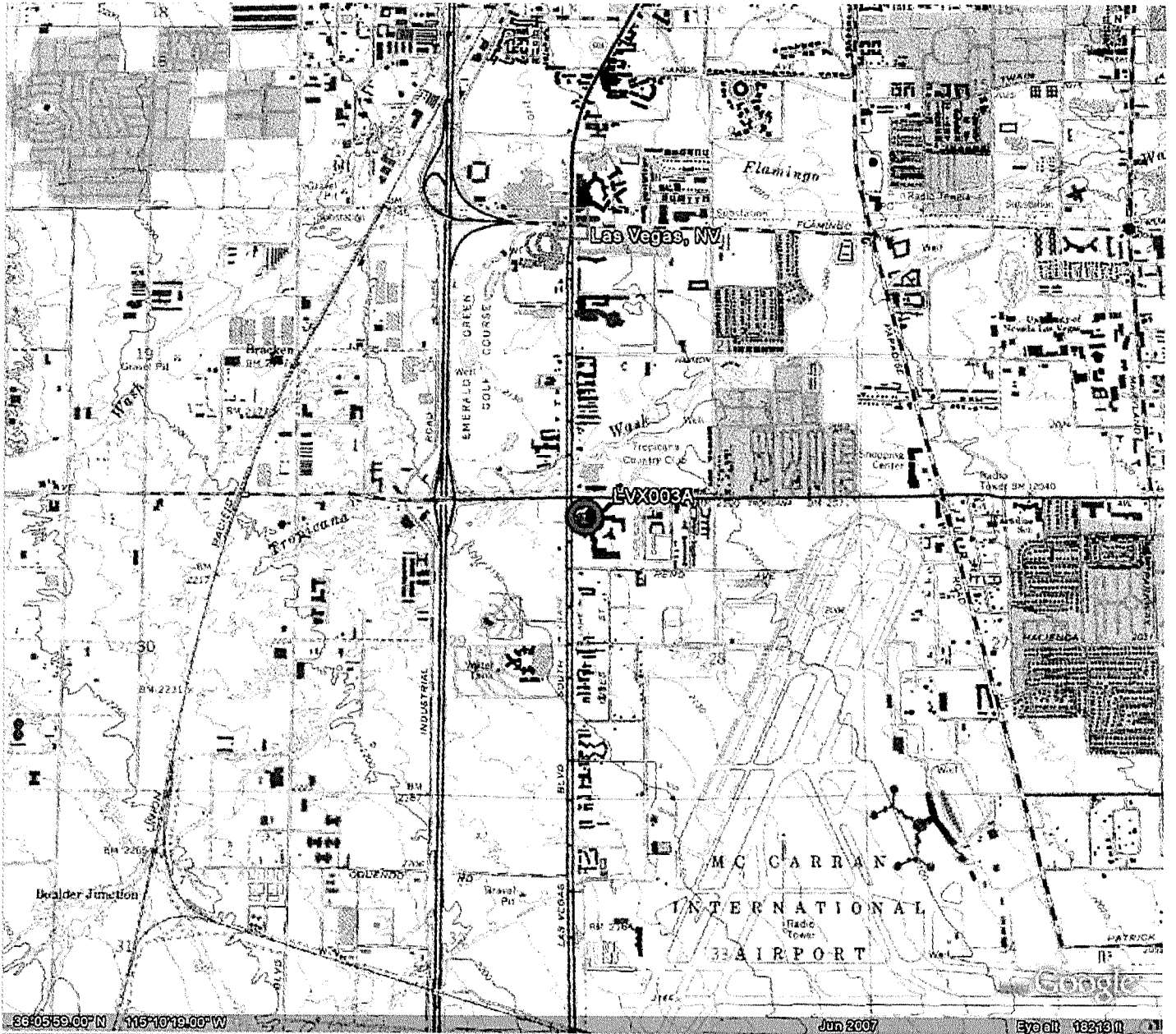
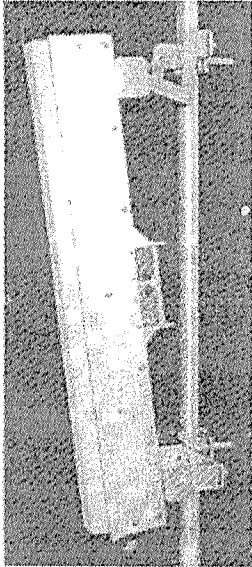


Exhibit D

Antenna Specification Sheet for Repeaters



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., 3000 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

Mechanical Specifications

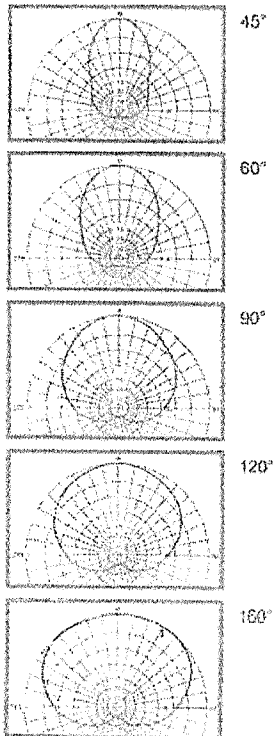
Length: 39.4 in. (1001 mm)
 Width: 6.5 in. (165 mm) with 45° side panels
 5.0 in. (127 mm) without 45° side panels
 Depth: 9.0 in. (228.6 mm)
 Weight (incl. Clamps): 31 lb. (14.1 kg)
 Rated Wind Velocity: 125 mph (200 km/h)
 Hor. Thrust at rated wind: 85 lb. (39 kg)
 with 45° side panels: 111 lb. (50.4 kg)
 Mechanical Tilt: 0° +/- 11.5°
 Mounting (O.D.): 0.75 - 3.0 in. (19 - 76 mm)

Materials

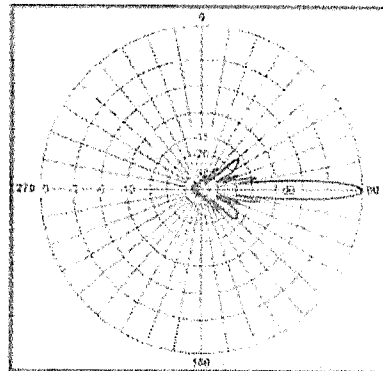
Radiating Elements: Tin Plated copper on PCB
 Reflector: Iridized aluminum
 Radome: Gray UV stabilized ASA
 Clamps: Stainless and HDG steel

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

H-Plane



E-Plane



Rev. 11

2002-03-27

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