

प्रसार भारती/Prasar Bharati  
(भारत का लोक सेवा प्रसारक)  
(India's Public Service Broadcaster)  
आकाशवाणी महानिदेशालय /Directorate General: All India Radio  
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No. SPECS-2 Bay Antenna-9/4/2019-D (TD/FM)

Dated 23.04.2019

**Subject:** Specification for Supply of 2-Bay Vertically Polarized Side Mount VHF FM Antenna-100 Places

Kindly find enclosed herewith the draft technical specification [**AIR Specification No. Antenna (2 Bay)/43/April/2019-D (TD/FM)**] for Supply of 2-Bay Vertically Polarized Side Mount VHF FM Antenna-100 Places, to get feedback from Original Equipment Manufacturers (OEMs) of the product.

Please submit your feedback via e-mail on or before 07.05.2019 at 17.00. Hrs. at the following e-mail addresses.

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Encl: As above.

(Manzoor Ali)  
Asstt. Director (Engg.)  
for Director General

**PRASAR BHARATI**  
(India's Public service Broadcaster)  
**DIRECTORATE GENERAL: ALL INDIA RADIO**  
**(PLANNING & DEVELOPMENT UNIT)**

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SPECIFICATION FOR SUPPLY OF 2-BAY VERTICALLY POLARIZED SIDE MOUNT VHF FM ANTENNA-100 Places

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**A. ESSENTIAL REQUIREMENTS FOR TENDERERS:**

- (i) The tenderer should submit Schedule of Requirements/Materials of Supply (un-priced) ***in the same format as given in Section-4.0 (A&B)*** of All India Radio Specifications in the technical bid, failing which the tender shall be considered incomplete and is liable to be rejected.
  - (ii) It is also mandatory to mention ***Make & Model of the offered equipment*** in the Schedule of Requirements/Materials of Supply, failing which the tender shall be considered incomplete and is liable to be rejected.
- Each statement of this specification has to be complied with & supported by printed technical literature, technical data sheets, schematic drawings and technical manuals from the manufacturer of the equipment by the tenderer, to assess the merit of the offer without which the tender will be considered incomplete and is liable to be rejected.
- The tenderer should submit the tender offer to All India Radio in the format given below, section wise & clause wise, in respect of all the sections of technical specifications. The OEM/tenderer must provide the page number reference, in column (4) of the table given below, of the Technical bid clearly indicating the volume number also, if any, for each supporting document to verify the parametric values shown in the technical specifications compliance statement, to assess the full merit of the offer, failing which tender shall be considered incomplete and is liable to be rejected.

S. No. of AIR Specifications (Section wise & Clause wise) (1)	Details of All India Radio Specifications (Part/ Section wise & Clause wise) (2)	Compliance (Yes/No) (3)	The page No. of the tender offer, where the information/ supporting document is available. (4)	Remarks (5)
A. Essential requirements for tenderers				
B. Essential eligibility criteria for tenderer				
Section-1.0 Clause wise				
Section-2.0 Clause wise				
Section-3.0 Clause wise				
Section-4.0 (A&B) Clause wise				

4. The tenderer should also quote the rate/cost of individual items in the tender offer while submitting the offer for spares (**OPTIONAL**) in commercial bid.
5. The complete technical specifications (Section wise & Clause wise) compliance statement along with Schedule of Requirements/Materials (un-priced) must be signed & stamped on each page by the respective Original Equipment Manufacturer (OEM) in the tender document including the clarifications, if any, asked by AIR, failing which the tender shall be considered incomplete and is liable to be rejected.  
In case tender offer is from other than the Original Equipment Manufacturer, the tenderer must also sign & stamp each page of the complete Technical specifications compliance statement (Section wise & Clause wise) including the clarifications, if any, asked by AIR, failing which the tender shall be considered incomplete and is liable to be rejected. The OEM & tenderer should mention their name in CAPITAL LETTERS & designation of the signatories, full address with pin code, phone number, fax number, e-mail addresses etc.
6. All the volumes of the entire technical bid must be page numbered.
7. The authorization and guarantee must be given by respective Original Equipment Manufacturer (OEM) on their letter head pad duly signed & stamped on each page. In case tender offer is from other than the Original Equipment Manufacturer, the tenderer must also give guarantee on their letter head pad duly signed & stamped on each page, failing which the tender shall be considered incomplete and is liable to be rejected without any notice/back reference. Guarantee shall be as per the format given in clause 1.7 of Section-1.0.
8. In case tender offer is from other than the Original Equipment Manufacturer, the tenderer should also furnish a certificate from the OEM that the tenderer can quote items of the OEM directly, failing which the tender shall be considered incomplete and is liable to be rejected without any notice/back reference.
9. Any change in the AIR technical specifications format or language or in parameters or of any other nature including the deletion of technical specifications clause, words, lines in the technical

specifications compliance statement by the OEM/ tenderer will not be acceptable to AIR and the tender is liable to be rejected.

10. Public Procurement (Preference to Make in India) Order No. P-45021/2/2017-B.E-II dated 15.06.2017 of Government of India, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion shall be applicable.

11. *Optional items will not be considered for ranking purpose.*

**B. ESSENTIAL ELIGIBILITY CRITERIA FOR TENDERER:**

- (a) The tenderer should either be the OEM of VHF FM Antenna or their authorized representative/dealer.
- (b) (i) The OEM of the VHF FM Antenna must have an experience of manufacturing and supplying 2-Bay/4-Bay/6-Bay/8-Bay/16 Panel VHF FM Antenna of power rating 500 W or more for at least last 5 years. Documentary evidence to support this must be provided. The OEM should have supplied VHF FM Antenna to reputed/public broadcasters. The OEM must provide the details of past supply record **in the format given below** for last five years ending last day of the month previous to the one in which the tender is invited, for at least 50 Nos. of 2-Bay/4-Bay/6-Bay/8-Bay/16 Panel VHF FM Antenna of power rating 500 W or more.

Order No. with date, reference	VHF FM antenna Type, Model and length	Qty.	Name of the broadcaster with full postal address including e-mail address to whom VHF FM antenna was supplied, for getting feedback on VHF FM antenna performance	Remarks
(1)	(2)	(3)	(4)	(5)

(ii) All India Radio reserves the right to get performance feedback of the VHF FM antenna from any of the above broadcasters named by the tenderer/OEM.

(iii) Copies of orders for supply of at least 10 Nos., out of the 50 Nos. of VHF FM antenna submitted by the tenderer in above format, are also to be enclosed by the tenderer.

- (c) In case the tenderer is the authorized representative/dealer, the tenderer must be in the business of sales and supply of VHF FM antenna/TV antenna for at least last three years. Documentary evidence to support this must be provided.
- (d) The OEM of the offered VHF FM antenna must have his local office/authorized representative/dealer in India for after sales support. **A certificate** in this regard duly signed by the OEM, on their letterhead **as per Annexure-I** including copy of Agreement/MoU in this regard between OEMs and their local representative/dealer and signed by both must be submitted with the offer.
- (e) The local office/authorized representative/dealer will be the nodal point for resolving issues related to after sales support. It is the responsibility of local office/authorized representative/dealer to arrange the repair/replacement of faulty items. Any module of the offered equipments/ items requiring repairs will be repaired at site. If it is not feasible to repair the module at site, the same will be collected from the site by local office/authorized representative/dealer that will arrange repairs locally. The cost of transportation, repairs etc. shall be borne by the tenderer during the guarantee period.

- (f) After sales support for the repairs/maintenance of offered equipments after the completion of guarantee period, shall also be provided by the respective OEM of the offered equipments/ items through their representatives/dealers in India.
- (g) The OEM should have complete setup for maintenance/repair of the offered equipments/items in India, either of its own or through authorized service provider.
- (h) The details of technical facilities in the local after sales support office, such as test bench, necessary test & measuring equipment and photographs thereof, must be provided in the technical bid.
- (i) AIR representatives may visit the works of local authorized representative/dealer of OEM in India to ensure/verify that adequate technical infrastructure is available for after sales service for timely resolving the issues related to attending/replacing the equipments. Tenders from the tenderers who failed to meet these criteria shall be considered incomplete and is liable to be rejected without any notice/back reference.

### **SECTION - 1.0**

#### **GENERAL SPECIFICATIONS:**

**1.0** 2-Bay Vertically Polarized Side Mount VHF FM Antenna as per AIR specification shall be used round the clock for continuous operation without any interruption in VHF FM broadcast service at AIR station.

**1.1 Please refer tender documents for general terms and conditions of contract for supply including all the commercial aspects like;** Packing and packing list, Insurance and Marine Risk etc. Payment terms, Penalty/Compensation for delay, Damages and liabilities, Time Period and Extension for Delay, Foreclosure of contract due to Abandonment or Reduction in scope of supply, Cancellation of contract in full or part, Recovery of security deposit, Performance Guarantee, Unsatisfactory workmanship, Damages incurred during transit, tenderer liable for damages, Defects, Recovery of compensation, Ensuring payment and amenities, tenderer to indemnify Government against Patent Rights, Release of security deposit, Safety Code, insurance from manufacturer's works/factory to respective site etc. **i.e. in totality.**

#### **1.2 INSPECTION:**

- a. 2-Bay Vertically Polarized Side Mount VHF FM Antenna will be accepted on the basis of OEM's test certificates (as per AIR specifications) duly stamped and signed by respective OEM on their letterhead, failing which test certificates will be considered incomplete and equipment offered by the firm is liable to be rejected.
- b. The complete Acceptance Test Procedure/Protocol (ATP) will be prepared by the respective OEM of the equipment/items as per Section-4.0 (A&B) and submitted to DDG (E-FM), P&D Unit, DG: AIR for approval within 15 days of issue of Acceptance of Tender. The **approved ATP** shall form the basis for OEM test certificate of actual performance measurements/inspection to be carried out by OEM. AIR has the right to include other technical parameters in ATP submitted by OEM within the ambit of specification of the product offered.

#### **1.3 INFORMATION TO BE SUPPLIED WITH THE TENDER:**

- (i) The complete technical specifications (Section wise & Clause wise) compliance statement alongwith Schedule of Requirements/Materials (un-priced) duly signed & stamped on each page by the respective Original Equipment Manufacturer (OEM) and countersigned by the tenderer as per the format given above in **clause A (3).**
- (ii) Complete printed technical literature/technical data sheet/schematic drawings/detailed information

including Technical Manual of 2-Bay Vertically Polarized Side Mount VHF FM Antenna as per Section-4.0 (A&B) from the respective Original Equipment Manufacturer (OEM) in support of compliance statement should be furnished, to assess the full merit of the offer, without which the tender offer will be considered incomplete and is liable for rejection.

- (iii) Detailed Schedule of Requirements/Materials (un-priced) for the supply of 2-Bay Vertically Polarized Side Mount VHF FM Antenna should be in conformity with Section-4.0 (A&B) without any change in the format, failing which, the tender will be considered incomplete and is liable for rejection. The tenderer must quote all items.
- (iv) Descriptive information and complete details of each equipment offered shall be given by the tenderer.
- (v) Country of Origin, Make, Type & Model of all the offered items should be mentioned including the name & address of their vendors.

**1.4 INFORMATION TO BE SUPPLIED BY THE TENDERER WITHIN ONE MONTH AFTER ISSUE OF ACCEPTANCE OF TENDER:**

One set of Technical Manuals (for Installation, Testing, Commissioning, Operation & Maintenance, including theory of operation, circuit description and fault diagnosis) **COLOUR** printed and duly bound for 2-Bay Vertically Polarized Side Mount VHF FM Antenna alongwith soft copy on CD must be supplied to “DDG (E-FM), P & D Unit, DG: AIR, New Delhi-110001”.

**1.5 INFORMATION TO PRECEDE DESPATCH OF EQUIPMENT:**

Following information should be supplied to the DDG (E-FM), P & D Unit, DG: AIR and each of the consignee prior to dispatch of Equipment:

- a) Detailed list of equipment under dispatch.
- b) Photograph showing location of various units/sub units with item numbers marked thereon.

**1.6 INFORMATION TO BE SUPPLIED ALONGWITH EQUIPMENT:**

Technical manuals (for Installation, Testing, Commissioning, Operation & Maintenance, including theory of operation, circuit description and fault diagnosis) **COLOUR** printed and duly bound for 2-Bay Vertically Polarized Side Mount VHF FM Antenna and OEM test certificate with soft copy on CD shall be supplied as per Section-4.0 (A&B).

**1.7 GUARANTEE:**

The tenderer shall submit with his tender an undertaking to accept the following guarantees:

*{This Guarantee clause is applicable to all the equipments/items mentioned in Schedule of Requirements/Materials in Section-4.0 (A&B)}.*

- (i) A guarantee that the equipment supplied will be in accordance with these specifications, varied only to the extent stated in his tender and agreed to in the contract.
- (ii) A guarantee to make good within 7 days (from the date of first intimation to OEM/tenderer) at tenderer's expense any component which becomes defective under normal operating conditions for 60 months from the date of supply. If the tenderer failed to rectify the fault within the stipulated period of 7 days, the guarantee period would be extended corresponding to the outage period.
- (iii) A guarantee to supply all components for a period of ten years from the date of supply, at rates at which these are being supplied by the firm to other customers and also should match prices of original manufactures of these components prevailing at that time.
- (iv) If at any stage during next 10 years, the manufacturer stops production of this model of VHF FM Antenna,

the firm shall intimate All India Radio in advance to enable the latter to stock the critical items.

**1.8 LANGUAGE/UNITS:**

All information supplied by the tenderer & all markings, notes, designation on the drawings & associated write-ups shall be in “**English language**” only.

All dimensions, units on drawings, all references to weights, measures & quantities shall be in SI Units.

**1.9 DELIVERY PERIOD OF EQUIPMENT:**

**i. For Indian Bidders:**

Supply will have to be completed within **Three months** from the date of Acceptance of Tender or **Three months** from the date of the Decision Letter from WPC(whenever is required) in respect of RF equipment, provided by AIR, whichever is later.

**ii. For Foreign Bidders:**

Supply will have to be completed within **Three months** from the date of Opening of Letter of Credit (LC).

**1.10 PACKING AND PACKING LISTS:**

All the equipment should be securely and properly packed to withstand transit hazards. Equipment packing shall be fit for sea freight and incorporate adequate protection against ingress of moisture. Packing slips giving details of the items contained in each package shall be placed inside the package in a water proof envelop to enable easy identification and should contain cross references to item/part numbers of installation drawings/components lists. Copies of packing slips and other details should be sent separately to respective consignee and also to the Dy. Director General (E-FM), P & D Unit, DG: AIR, New Delhi.

**1.11 INSURANCE AND MARINE RISKS ETC:**

Please refer to commercial terms.

**1.12 MAINTENANCE SUPPORT AND SPARES:**

- (a) The minimum recommended essential spares shall be quoted separately by the tenderer.
- (b) The minimum recommended essential spares may be based on predicted rate of failure.
- (c) In case, the tenderer quotes the optional items as ‘a Set’, the details of the components/items offered in the ‘Set’ must be spelt out clearly including their Make & Model and quantity.

**1.13 LOCAL REPRESENTATIVE/DEALER:**

- (a) The OEM of the offered 2-Bay Vertically Polarized Side Mount VHF FM Antenna must have his local office/authorized representative/dealer in India for after sales support. **A certificate** in this regard duly signed by the OEM, on their letterhead **as per Annexure-I** including copy of Agreement/MoU in this regard between OEMs and their local representative/dealer **and signed by both** must be submitted with the offer.
- (b) The local office/authorized representative/dealer will be the nodal point for resolving issues related to after sales support. It is the responsibility of local office/authorized representative/dealer to arrange the repair/replacement of faulty items. Any module of the offered equipments/ items requiring repairs will be repaired at site. If it is not feasible to repair the module at site, the same will be collected from the site by local office/authorized representative/dealer that will arrange repairs locally. The cost of transportation, repairs etc. shall be borne by the tenderer during the guarantee period.
- (c) After sales support for the repairs/maintenance of offered equipments after the completion of guarantee

period, shall also be provided by the respective OEM of the offered equipments/ items through their representatives/dealers in India.

- (d) The OEM should have complete setup for maintenance/repair of the offered equipments/items in India, either of its own or through authorized service provider.
- (e) The details of technical facilities in the local after sales support office, such as test bench, necessary test & measuring equipment and photographs thereof, must be provided in the technical bid.
- (f) AIR representatives may visit the works of local authorized representative/dealer of OEM in India to ensure/verify that adequate technical infrastructure is available for after sales service for timely resolving the issues related to attending/replacing the equipments. Tenders from the tenderers who failed to meet these criteria shall be considered incomplete and is liable to be rejected without any notice/back reference.

## **SECTION-2.0**

### **TECHNICAL SPECIFICATIONS:**

#### **2.0 ANTENNA SYSTEM**

2.1 The 2-Bay Vertically Polarized Side Mount VHF FM Antenna along with antenna clamp suitable for mounting on class C G.I pipe of size 50 NB, shall be supplied with each set for 100 places.

2.2 The Antenna will be mounted on the Guyed Mast/Self Supporting tower of AIR.

**2.3 Following documents shall be supplied along with the Tender:**

- a. VSWR curve for complete Frequency range i.e. 88 MHz-108 MHz.
- b. Horizontal Radiation Pattern.
- c. Vertical Radiation Pattern.

2.4 Brief Specifications of Antenna to be supplied are given below:

<b>S. No.</b>	<b>Parameters</b>	<b>Specifications</b>
2.4.1	Operating Frequency Range	88 MHz -108 MHz
2.4.2	Nominal Impedance	50 $\Omega$ unbalanced
2.4.3	VSWR	Better than 1.2 : 1 over 5 MHz from 100 MHz to 105 MHz and to be optimized to 1.1 : 1 for operating frequency (to be intimated later at the time of placement of order)
2.4.4	Power Handling Capacity (Total)	$\geq$ 500 Watts
2.4.5	Polarization	Vertical
2.4.6	Gain w.r.t. Half Wave Dipole	$\geq$ 4.5 dBd
2.4.7	Lightning Protection	All metal parts to be DC grounded.
2.4.8	Input Connector of main power divider(splitter) of antenna system	7/16 DIN Female connector suitable for connecting 7/8" RF Coaxial foam dielectric cable fitted with 7/16 DIN Male connector.



2.4.9	Output Connectors of main power divider (Splitter) of antenna system	7/16 DIN connector
2.4.10	Branch feeder cables and Clamps for mounting Dipoles	Suitable Branch feeder cable fitted with 7/16 DIN connector at both ends and Clamps to be supplied with the Antenna.
2.4.11	Input Connector of dipoles	7/16 DIN connector
2.4.12	Maximum Wind Speed	198 km/Hour
2.4.13	Ambient Temperature	-5°C to 55 °C
2.4.14	Humidity	95% non-condensing
2.4.15	Rainfall	Moderate to heavy

**2.5 Inter-bay feeding/Feed System:** Full details of Feeding arrangement and the engineering drawings with dimensions along-with the details of inter-connecting RF coaxial foam dielectric cables/rigid lines etc. to be submitted with the tender. The entire feeding system should be adequately protected against heavy rainfall, extreme daily temperature variance.

*All technical parameters are to be supported by printed technical literature, technical data sheets & technical manuals from the OEM by the tenderer to assess the merit of the offer, failing which the tender shall be considered incomplete and is liable to be rejected. The tenderer should make a detailed offer.*

**2.6 External material:** Dipoles will be made of stainless steel or Marine Brass. Power Dividers & Rigid feed lines will be made of Marine Brass or Copper. All electrical contacts must be silver plated. Clamps shall be constructed of hot dip galvanized Steel/stainless steel. All fasteners will be of Stainless Steel or High Tensile non corrosive material.

**2.7 Internal material:** Inner lines of Dipoles will be of copper or Brass. All electrical contacts will be silver plated. All inners and bullets will be made of Beryllium copper and silver plated. Insulators will be made of virgin Teflon.

**2.8** All joints to be made completely air tight & water tight.

### **SECTION-3.0**

#### **INSPECTION:**

2-Bay Vertically Polarized Side Mount VHF FM Antenna will be accepted on the basis of OEM's test certificate of actual performance measurements as per AIR specification before dispatch to All India Radio and receipt of equipments/items at site in good condition.

The Original Equipment Manufacturer's (OEM) test certificates shall be duly signed & stamped on the letter head of the OEM, failing which Original Equipment Manufacturer's (OEM) test certificates will be considered incomplete and equipment offered by the tenderer is liable to be rejected.

Following information should also form part of OEM test certificate for each VHF FM antenna.

1. Make, Type, Model and Country of Origin of the accessories and spares.
2. Measurements of all parameters as per Section 2.0 of Technical Specification.

**SECTION-4.0 (A)****SCHEDULE OF REQUIREMENTS/MATERIALS (UN-PRICED) [FOR ONE SET OF 2-BAY VERTICALLY POLARIZED SIDE MOUNT VHF FM ANTENNA]**

S. No.	Description	Make	Model	Qty.
1.	Supply of 2-Bay Vertically Polarized Side Mount VHF FM Antenna system including power divider, branch feeder cables, connectors, clamps for mounting dipoles etc., as per AIR specification.			1 Set Complete
2.	Any other accessories offered for the completeness of the system.			1 Lot
3.	Technical manuals (for Installation, Testing, Commissioning, Operation & Maintenance, including theory of operation, circuit description and fault diagnosis) <b>COLOUR</b> printed and duly bound for 2-Bay Vertically Polarized Side Mount VHF FM Antenna system as per distribution given below alongwith one soft copy on CD.			
3.1	For DDG (E-FM), P & D Unit, DG: AIR, New Delhi- 110001 {Within one month of issue of Acceptance of Tender) <b>(irrespective of number of 2-Bay Vertically Polarized Side Mount VHF FM Antenna system to be ordered)</b>			1 Set
3.2	For Consignee {To be supplied alongwith the equipment}			2 Sets
3.3	For the following Offices/Officers, Technical manuals are to be supplied alongwith the equipment as per distribution given below) <b>(irrespective of number of 2-Bay Vertically Polarized Side Mount VHF FM Antenna system to be ordered)</b>			13 Sets
	(i) DDG (E-FM), P&D Unit, DG: AIR - 1 Set			
	(ii) Zonal Office (Project Wing) (For SZ, WZ, NZ & EZ) - 4 Sets			
	(iii) Zonal Office (Maintenance Wing) (For SZ, WZ, NZ & EZ) -4 Sets			
	(iv) DDG (E-TM), DG: AIR -1 Set			
	(v) Technical Library, P&D Unit, DG: AIR -1 Set			
	(vi) NABM, New Delhi -1 Set			
	(vi) R&D, AIR & DD, New Delhi -1 Set			
	Total -13 Sets			

**SECTION-4.0 (B)**

**SCHEDULE OF REQUIREMENTS/MATERIALS (UN-PRICED) [FOR ONE SET OF 2-BAY VERTICALLY POLARIZED SIDE MOUNT VHF FM ANTENNA SYSTEM] (OPTIONAL) (Not to be considered for Ranking)**

**{The tenderer must quote all items}**

S. No.	Description	Make	Model	Qty.
1.	7/16" DIN Connector (Male)			1 No.
2.	7/16" DIN Connector (Female)			1 No.

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**ANNEXURE-I****PERFORMA FOR INFORMATION ABOUT LOCAL OFFICE FOR AFTER SALES SUPPORT**

1.	<b>Address of Local Office</b>	
	Telephone (Landline) No.	
	Mobile No.	
	E-mail Address	
2.	Address for communication (if different)	
3.	Legal Status (Authorized Representative/ liaison office/registered company etc.)	
4.	Name, address, contact number (Mobile number) & e-mail address of Local representative	
5.	Brief details of Technical facilities available for after sales support:  (The details of technical facilities in the local after sales support office, such as test bench, necessary test & measuring equipment and photographs thereof, must be provided in the technical bid).	
6.	Main line of business, specialization and number of years of operation	
7.	Total number of permanent technical employees including their designation and qualification	
8.	Details of Agreement/MoU for after sales support with OEM (Copy must be provided with the offer)	Date of Agreement:  Executed at :  Executed by :
<b>(Authorized Signatory of local office)</b>		<b>(Authorized Signatory OEM of VHF FM Antenna)</b>
Name :		Name :
Signature :		Signature :
Place & Date		Place & Date

Y. P. Singh, AE

Manzoor Ali, ADE

Rajendra Nahar, DDE

Aditya Chaturvedi, DDG (E)

## ANNEXURE-II

**List of Places for supply of 2-Bay Vertically Polarized Side Mount VHF FM Antenna system at (100 Nos.) LPT DD sites**

S. No.	Name of Place	State	S. No.	Name of Place	State	S. No.	Name of Place	State
1	Alagadda	Andra Pradesh	35	Gangawati	Karnataka	69	Malkangiri	Odisha
2	Rajahmundry	Andra Pradesh	36	Kolar	Karnataka	70	Nabarangpur	Odisha
3	Madanapalle	Andra Pradesh	37	Renebenur	Karnataka	71	Phulbani	Odisha
4	Banka	Bihar	38	Udupi	Karnataka	72	Balasore	Odisha
5	Buxar	Bihar	39	Kayamkulam	Kerala	73	Abohar	Punjab
6	Gopalganj	Bihar	40	Pathanamthitta	Kerala	74	Baran	Rajasthan
7	Jamui	Bihar	41	Badwani	MP	75	Bhadre	Rajasthan
8	AIR Darbhanga	Bihar	42	Burhanapur	MP	76	Bhilwara	Rajasthan
9	Lakhisaria	Bihar	43	Khargone	MP	77	Bhinmal	Rajasthan
10	Sheikhpura	Bihar	44	Khurai	MP	78	Dungarpur	Rajasthan
11	Nawada	Bihar	45	Kukdeswar	MP	79	Hanumangarh	Rajasthan
12	Siwan	Bihar	46	Murwara	MP	80	Jalore	Rajasthan
13	Narayanpur	Chhattisgarh	47	Narsinghpur	MP	81	Karanpur	Rajasthan
14	Amreli	Gujarat	48	Panna	MP	82	Khajuwala	Rajasthan
15	Botad	Gujarat	49	Piparia	MP	83	Pali	Rajasthan
16	Chhote Udaipur	Gujarat	50	Seoni	MP	84	Phalodi	Rajasthan
17	Dohad	Gujarat	51	Shajapur	MP	85	Sujargarh	Rajasthan
18	Modasa	Gujarat	52	Shyampur	MP	86	Pratapgarh	Rajasthan
19	Morvi	Gujarat	53	Nagda	MP	87	Kumbakonam	TN
20	Rapar	Gujarat	54	Achalpur	Maharashtra	88	Kachipuram	TN
21	Jamjodhpur	Gujarat	55	Barshi	Maharashtra	89	Davarkonda	Telangana
22	Tharad	Gujarat	56	Hingoli	Maharashtra	90	Nalgonda	Telangana
23	Valsad	Gujarat	57	Mahad	Maharashtra	91	Nirmal	Telangana
24	Veraval	Gujarat	58	Nandurbar	Maharashtra	92	Ramagundam	Telangana
25	Khambalia	Gujarat	59	Pandharpur	Maharashtra	93	Auraya	UP
26	Radhanpur	Gujarat	60	Rajapur/Rajpur	Maharashtra	94	Deoria	UP
27	Narnaul	Haryana	61	Chiplun	Maharashtra	95	Fatehpur	UP
28	Jind	Haryana	62	Satana	Maharashtra	96	Lalitpur	UP
29	Bhiwani	Haryana	63	Shirdi	Maharashtra	97	Naugarh	UP
30	Godda	Jharkhand	64	Sironch	Maharashtra	98	Car Nicobar	Andman & Nicobar
31	Bagalkot	Karnataka	65	Umarkhed	Maharashtra	99	Mayabunder	Andman & Nicobar
32	Bidar	Karnataka	66	Washim	Maharashtra	100	Alipurduar	West Bengal
33	Belgavi	Karnataka	67	Bargarh	Odisha			
34	Hosur	Karnataka	68	Kendrapara	Odisha			

**Note: The site locations mentioned above are tentative and the same may be changed later on by AIR Directorate.**