PRASAR BHARTI

(India's Public Service Broadcaster)
Directorate general of Doordarshan
Doordarshan Bhawan, Copernicus Marg
New Delhi -110001.

File No. 19(2)2020-21E1 (P) TV

12/11/2021

Subject: Draft Technical specifications for Procurement of 1,20,000 DTH Receive Sets for distribution in remote, tribal and LWE areas.

The Draft specification of the upcoming tender is enclosed herewith to offer comments, if any by prospective bidders/Firms. Please also submit budgetary quote of the item on or before due date at e-mail ddpurchase401@yahoo.co.in or on following Address:

Assistant Engineer

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Specification For: Draft Technical specifications for Procurement of 1,20,000 DTH Receive Sets for distribution in remote, tribal and LWE areas.

Specification no: SATD/1.20 Lakh/KU-band F.T.A (Non CAS) DTH Receive

System Dated 10/11/2021

Due Date to offer Comments: 26.11.2021

Encl.: As above (16 Pages)

Prabhat Kumar Singh Assistant Engineer Doordarshan Directorate, Doordarshan

Prasar Bharati Directorate General: Doordarshan Doordarshan Bhawan: Copernicus Marg New Delhi-110001

Technical Specifications for Procurement of 1,20,000 DTH Receive Sets for distribution in remote, tribal and LWE areas

Spec No.: SATD/1.20 Lakh/Ku-Band F.T.A (Non CAS) DTH Receive System Date: 10.11.2021

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1. Introduction

This document lays down technical specifications for supply of 1,20,000 DTH Receive Sets including STB & accessories along with Receive dish antenna, LNBF, RF cable with connector for distribution in remote, tribal and LWE areas.

2. Scope of Work

The scope of the present tender is "supply of 1,20,000 DTH Receive Sets" for distribution in remote, tribal and LWE areas. The list of consignee, where these 1,20,000 DTH receive sets are to be delivered is enclosed as Annexure-2.

3. Eligibility Criteria

The bidder shall meet the following eligibility criteria:

- 3.1) The bidder should be Set Top Box (STB) manufacturer (OEM) in India or its authorized representative/ Dealer in India.
- 3.2) Bidder shall offer Set Top Box (STB) of only those OEMs as mentioned under clause 3.1 and having the experience of manufacturing and supplying of minimum 1 Lakh of Set Top Box (STBs) in the preceding past two years. List of past supply records of OEM of such equipment in the preceding past two years to various organizations along with documents substantiating (like Purchase order/delivery challan/Invoice etc) the claim in this regard shall be provided with bid.
- 3.3) The bidder's annual turnover from sale of electronics hardware products including RF receiving equipment should be at least Rs 25 Crore in the last two years i.e., financial years 2019-20 and 2020-21. Documents substantiating the claim in this regard should be submitted with the bid. The turnover should be of the OEM's or bidder's alone and should not include the turnover of any subsidiary / sister concern etc.
- 3.4) The OEM or bidder shall provide the copy of Income Tax return filed for the financial year 2019-20 and 2020-21 along with their C.A. certificate which is certifying the total annual turnover in respect of electronics hardware products including RF receiving equipment.
- 3.5) The offered STB should have valid BIS certification on or before the date of submission of the bid.

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3.6) Bidders not fulfilling the above mentioned Eligibility Criteria are likely to be rejected with the sole responsibility of bidders and no further claim/ correspondence will be entertained.

4. Terms and Conditions:

- 4.1) The bidder shall provide after sales maintenance support in the form of direct service centres or franchisees or OEM service centres. A list of such maintenance support centre along with their contact numbers and addresses for the offered equipment should be submitted along with the tender and should undertake to enhance their maintenance support as per distribution in India.
- 4.2) The bidder shall have authorised service centres/distributor centres in India and should be manned by Technical support staff to provide after sales support for its offered equipment.
- 4.3) The bidder/authorised dealer/distributor shall have their own helpline no. and/or e-commerce portal for installation related queries for their offered DTH receive set in India.
- 4.4) The bidder/authorised dealer/distributor/maintenance service centre of the bidder shall not charge towards repair and maintenance of the DTH Receive Set during the period of warranty. If any equipment of the offered DTH receive set is irreparable, then it should be replaced by the new equipment free of cost by the bidder/ the authorised dealer/distributor/maintenance service centre of the bidder within the warranty period.
- 4.5) The bidder shall provide make, model, serial number for the offered equipment and DD Free Dish logo imprinted on the packing box of the equipment.
- 4.6) The bidder shall provide STBs with BIS certification marking along with DD Free Dish Logo imprinted on the STB cabinet.
- 4.7) The bidder shall provide Offered 0.6 meter receive PDA with DD Free Dish Logo imprinted on the reflector.
- 4.8) If necessary, the bidder may be asked to submit offered DTH Receive Sets as part of technical evaluation to verify the features and parameters. In such case bidder may be required to provide atleast one set of offered DTH receive set on a notice of seven days. Accordingly bidder should be in readiness for demonstration and testing.

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5. Technical Specifications of FTA (Non- CAS) DD DTH Receive System:

5.1) MPEG-2 & MPEG-4 SD and MPEG-4 & HEVC HD, DVB-S & DVB S2 Compliant DTH Set Top Box

A. General Features of STB:

- 1) The offered Set Top Box should be certified by the Bureau of Indian Standards (BIS).
- 2) The offered Set Top Box shall have the facility to pass all the Dolby encoded up to 5.1 audio channels.
- 3) The offered Set Top Box shall have the facility to show boot up logo of DD Free Dish DTH platform. The DD Free Dish logo will be provided by DD to successful bidder.
- 4) The offered Set Top Box shall have a good quality RF tuner as mentioned in the technical specification clause no. B. 1.(1.1).
- 5) The offered Set Top Box shall allow software updates/upgrade (operational software etc, separately) via USB.
- 6) The offered Set Top Box shall support 7- day EPG, Teletext, Subtitle, Closed captioning.
- 7) The offered Set Top Box shall support max 1500 TP and 4000 Programs restore.
- 8) The offered Set Top Box shall support 576p/576i/480p/480i video resolution for SDTV and 720p/1080i/1080p for HDTV.

B. Technical Specifications:

S. No. Parameter Specifications						
1 Interface/Connectors:						
1.1	Satellite input (Tuner)	1 x DVB-S2 including DVB-S compliant L-band Input signal Tuner (for SD and HD Set Top Box) with 75 ohm, F Type female connector				
	a) Input level per carrier b) Input frequency range c) Symbol rate d) RF input impedance e) RF input return loss	 a) -65dBm to -25dBm or better b) 950 MHz to 2150 MHz c) 2 M Symbols/Sec – 45 M Symbols/Sec d) 75Ω e) 8 dB, Min 				
1.2	Video Decoding	SD: MPEG- 2 & MPEG- 4 HD: MPEG-4 & HEVC				
1.3	Video output	1 x RCA and 1x HDMI				
1.4	Audio Decoding	i) MPEG-1 Layer-2				

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		ii) HE-AAC 5.1 v1 & v2				
		iii) Dolby digital 5.1 & Dolby digital Plus				
		5.1 (Pass through)				
1.5	No. Of Stereo Audio	Min. 2 nos.				
1.6	Audio output	2x RCA				
1.7	Video recording and Playout	1x USB 2.0 port or better				
1.8	DVB-CI(Common Interface)	as per EN 50221 and TS 101699				
1.9	To connect power supply unit	Power Jack				
1.10	Front panel Buttons	Min 5 buttons (Power, ch+, ch-, V+, V-).				
1.11	Front Panel LED Indicator	Power, IR, RF Signal				
2 P	Power Supply:					
2.1	Power	Internal SMPS or External Adaptor				
2.2	Voltage Range	Input 90-270 V				
2.3	AC Frequency	$50 \text{ Hz} \pm 2 \text{ Hz}$				
2.4	Surge immunity	4 KV				
2.5	Spike immunity	4 KV				
2.6	Power consumption	Max 18 W				
2.7	Output Voltage	12 V, 1.5 A (for External adaptor)				
3 (Chipset and Memory:					
3.1	Salient Features	a. A good quality Chip manufactured by a reputed company shall be used.b. Chip shall support secure boot process.				
3.2	Flash	Minimum 16 MB(Mega Byte)				
3.3	RAM	Minimum 128 MB DDR3.				

5.2) Infra-red Remote Control hand set of above Set top Box:

- 1) Infra-red Remote control shall be of good quality.
- 2) Infra-red Remote control shall have following important keys for instant operations and functions:
 - a. Power on/off key
 - b. Vol + and Vol keys
 - c. Mute key
 - d. Ch+ and Ch- keys
 - e. Page up and Page down keys
 - f. Numeric keys 0 to 9
 - g. Info key
 - h. Recall key

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- i. Exit key
- j. Menu key
- k. Full screen key
- 1. Closed captioning key
- m. EPG key
- n. Favourite key
- o. Four additional keys coloured red, green, yellow and blue
- 3) Power supply requirement:
 - a. Normal Voltage: 3 V DC
 - b. Dry cell batteries (1.5x 2)
- 4) Reachable straight distance at 3V: More than 10 meters.

5.3) 0.6 Meter Ku-Band offset Solid Parabolic Receive Dish Antenna, Low Noise Block Down Converter-Feed and Co-axial Cable

A. 0.60 meter (Nominal) Ku-Band offset Solid Parabolic Receive Dish Antenna:

S. No.	Description of Parameter	Specifications
1	Ku-Band Rx frequency	Ku-band 10.7 GHz to 12.75 GHz
2	Major Axis	Minimum 0.65 Meter
3	Minor Axis	Minimum 0.60 Meter
4	F/D Ratio	0.45 to 0.70
5	Dish type & Thickness	One panel (Single Reflector)
		Thickness-Minimum 0.6mm
6	Reflector Optics	Offset Focus
7	Cross Polar isolation (on axis)	Better than 25 dB
8	Rx Gain @ 11.7 GHz)	Minimum 35.5dBi
9	El. Movement	5 to 85°
10	Az. Movement	±180°
11	Wind loading capacity:	
	a) Operational	a) 72Km/hr or better
	b) Survival	b) 201Km/hr or better
12	Operating temperature	-30°C to +60°C
13	Mount	Az. / El. type wall and roof mount
14	Polarization	Linear
15	Materials to be used for Reflector	With high quality outdoor grade powder
	and Accessories	coated

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B. Low Noise Block down Converter-Feed (LNBF):

	S. No	Description	Specification			
	1	I/P Freq Range	Low Band: 10.70 GHz to 11.70 GHz			
			High Band: 11.70 GHz to 12.75GHz			
	2	O/P Frequency Range	Low Band: 950 MHz to 1950 MHz			
			High Band: 1100 MHz to 2150 MHz			
	3	Output connector type	75 ohms Female "F" Type Connector			
1	4	Input feed horn type	Linear, Optimized for Offset dish F/D ratio			
			from 0.45 to 0.70			
	5	Noise Figure	0.5 - 0.8 db or better			
	6	LO	Low Band: 9.75GHz			
			High Band:10.60GHz			
	7	LO stability	\pm 3 MHz (Max) over temperature range of			
			-30 Deg C to +60 Deg C			
	8	Conversion Gain	55 dB Minimum			
	9	Cross Pole Isolation	20dB minimum			
	10	Insertion loss	< 0.2 dB			
	11	DC Operating Voltage	11.5 V to 19.0 VDC			
	12	Band Switching	Low Band: 0 kHz			
			High Band: $22kHz \pm 4 kHz$			
	13	Operating Temperature	-30°C to +60°C			

C. Coaxial Cable:

S. No	Description	Specification
1	Cable type	RG 6 (Centre conductor should be copper/CCS material)
2	Characteristic Impedance	75 ohm
3	Type of "F" connector (I/O)	Professional grade, compression type, ANSI/SCTE compliant "F" connector (Male at both end)
4	Loss in dB per 100 feet	
	At 950 MHz	8 dB/100 feet or better
	At 2150 MHz	11 dB/100 feet or better

6. Complement of Equipment:

- 6.1) The make and model/part no. of each and every equipment/item/installation material etc. should be clearly mentioned in the offered Bill of Material (BoM).
- 6.2) The suggestive Bill of Material (BOM) has been provided in **Annexure-1**. The bidder is required to provide the complete list of equipment, software and accessories etc. offered to meet the specifications requirement. The quantity of each item including sub-module etc. are to be specified clearly and compulsorily, failing which the bid is liable to be rejected summarily.
- 6.3) Any substandard equipment included in the offer may result into the rejection of complete offer with the sole responsibility of bidder.
- 6.4) The offer should also include the detailed technical brochure and technical manual containing all the technical specifications of all the offered equipment, accessories, and software etc.

7. General:

A. Compliance and Authorization:

- 1) The bidder must submit a point-by-point compliance statement in respect of all the points, sub-points and paras laid down in this specification from page 1 onwards along with the offer.
- 2) In addition to the above, compliance from respective OEMs (not from representative) in respect of all the equipment listed below should necessarily be given on their letter heads, in respect of all the points, sub-points and paras laid down in the specification of respective equipment.
 - i) Digital Set Top Box
 - ii) 60 cm Receive PDA
 - iii) Coaxial Cable
 - iv) Ku Band LNBF
- 3) The OEM's authorization (not from representative) in respect of all the equipment listed above under Sr. No 7.A.2 should be given on their letter heads along with bid.
- 4) Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.
- 5) Compliance statement in the format as indicated below shall only be accepted.

S r · N o	DD specs.	Com pli an ce (Yes /N o)	Perfor manc e fig. of the offer ed equip ment	Deviati ons, in Case of non- com plian ce	Features in the System offered Which exceed DD specs.	P a g e N o	R e m a r k

Offers without proper & duly completed compliance statement are liable to be rejected with the sole responsibility of the bidder and no further claim/ correspondence will be entertained.

- 6) The manufacturer should also record the performance figures of the equipment offered in the quote for which the compliance statement is enclosed.
- 7) The compliance statement should be supported by highlighted record of these in the technical literature/data sheets enclosed with the tender and a clear reference to the attached supporting document should be given in the remarks column against each & every specification. Any offer without proper supporting document of each & every specification and containing only a commercial hand out/pamphlet is liable to be rejected.
- 8) Data sheets should be submitted in respect of all offered equipment. Any deviation from the specification detailed in the compliance statement is to be highlighted separately. Page no. of location of data sheet should be given in page no. column of the compliance statement.
- 9) Offers without proper & duly completed compliance statement are likely to be rejected with the sole responsibility of the bidder and no further claim/ correspondence will be entertained.

Documentation:

- 1) One set of technical manual for all the equipment offered are to be uploaded along with bid.
- 2) The successful bidder will have to supply one set of printed technical and user manuals of all the offered equipment.

- 3) All the offered software should have perpetual validity and should be in the name of Doordarshan.
- 4) The bidder shall provide the user manual, safety notes and other necessary instruction list along with instructions for Installation and operation to each set.

C. Guarantee/Warranty and After Sales Service Support:

- All the offered equipment {i.e. Receive Dish antenna, LNBF, RF cable, STB, remote control handset, External power supply adaptor (if offered), etc} shall be guaranteed against any manufacturing defects for a period of one year from the date of acceptance of consignment.
- 2) Any parts failing during the guarantee period shall be repaired/ replaced free of charge by the bidder/ authorised dealer/ distributor/ maintenance service centre.
- 3) If any equipment of the offered/supplied DTH receive set is irreparable, then it should be replaced by the new equipment free of cost by the bidder/ authorised dealer/ distributor/ maintenance service centre of the bidder.
- 4) In case, bidder is not the STB OEM, then for the offered STBs, certificate/undertaking to provide after sales maintenance support for 5 years including 1 year Guarantee/warranty period from the date of acceptance of full consignment, either directly or through its authorised dealer/ distributor, shall be submitted by the bidder as well as by the OEM of the offered STBs. For rest of the offered equipment also bidder shall submit a certificate/ undertaking to provide after sales maintenance support for 5 years including 1 year Guarantee/ warranty period from the date of acceptance of consignment, either directly or through its authorised dealer/ distributor.
- 5) It will be the responsibility of the bidder to ensure after-sale service and guarantee/ warranty for the offered equipment from the manufacturers.
- 6) For repairing of any defective equipment during guarantee/warranty period, the defective module or equipment requiring repairs will be handed over to the nearest local office/authorized dealer/distributor/maintenance service centre of the bidder who will arrange repairs locally or send the defective module to OEM factory and send back after repairs. It is the responsibility of local office/authorized dealer/distributor of the bidder to arrange the repair/ replacement of faulty items during guarantee/warranty period.

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- 7) Bidder shall provide the guarantee/warrantee in respect of the offered equipment mentioned in Clause 7.A.2 through respective OEMs. A certificate, duly signed by the OEM on the OEM letterhead, in this regard of the respective equipment must be submitted with the offer by the bidder.
- 8) After completion of one year guarantee/ warrantee period, After Sales Service support for additional 4 (four) years for the repairs/maintenance in respect of the equipment as mentioned in Clause 7.A.2 shall also be provided by the OEM either directly or through his representative in India. After Sales Service support certificate for 5 years including 1 year Guarantee/warranty period, duly signed by the OEM on the OEM letterhead of the respective equipment must be submitted with the offer by the bidder.
- 9) Offers without proper & duly completed Guarantee/Warranty and After Sales Support certificates are likely to be rejected with the sole responsibility of bidder and no further claim/ correspondence will be entertained.
- 10) The bidder shall provide Guarantee/warranty card for the offered equipment inside the packing box of the equipment.
- 11) The bidder shall imprint the helpline nos, and service centres detail on the Guarantee/warranty card.

D. Inspection:

All the equipment to be supplied against the supply order for this tender shall be subjected to pre-dispatch inspection at Delhi or at bidder's premises by Doordarshan officials appointed by Doordarshan Directorate. The successful bidder should produce the factory test reports of the offered equipment to facilitate inspection.

Delivery Period: E.

Four months from the date of issue of purchase order by Doordarshan to the successful bidder.

Pre-Bid Conference: F.

A pre bid conference on technical Specifications and other issues shall be held on date and time specified in the NIT. All prospective bidders may attend the pre bid conference to discuss their queries and suggestions. All the queries and suggestions should be sent to Doordarshan at least 2 days before the date of pre bid conference. No queries/ suggestions shall be entertained after pre bid conference. Amendments subsequent to the pre bid conference shall be sent to prospective bidders, who have purchased tender document by e-mail/fax/ post. It shall be bidder's responsibility to check for any amendments on Doordarshan website before submitting their duly completed bids.

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G. Check List and Enclosures:

- 1) The bidders may ensure the following check list while submitting the bid including some important list of enclosures for ease of evaluation.
- 2) Whether all documents related to fulfilment of the eligibility criteria at clause no. 3 have been submitted.
- 3) Whether certificate for providing after sales maintenance support during the contract period i.e. 5 years including 1 year Guarantee/warranty period or at least three years from the date of sale of STB whichever is later has been provided.
- 4) Whether point-by-point compliance statement of the bidder in respect of all the points, subpoints and Paras laid down in this specification from page 1 onwards along with the offer as given in Clause 7.A.5 has been included.
- 5) Whether point-by-point compliance statement of OEM in respect of all the points, subpoints and Paras laid down in this specification of respective equipment and their authorization mentioned in clause no. 7.A.2, 7.A.3, 7.A.4 & 7.A.5 have been included. Authorization and compliance statement from OEMs will only be acceptable and not from the authorized dealer of the OEMs.
- 6) Whether the BOM has been submitted in the prescribed format.
- 7) Whether the page numbers of the relevant enclosed technical data sheet/manual against each parameter of the specifications have been given in the compliance statements.
- 8) Whether the requisite undertakings for guarantee/warranty and after sales support by OEMs and bidder have been submitted.
- 9) Ensure that no alternate item has been offered.
- 10) Ensure that the relevant technical brochures containing all the parameters of technical specifications of all the offered equipment and accessories have been included with proper indexing for ease of identification.
- 11) Ensure that the un-priced BOM has been included.
- 12) Any other item mentioned elsewhere in the tender.

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Annexure-1

Suggestive Bill of Material (BOM)

Procurement of Free To Air (Non- CAS) DD DTH Receive Sets for distribution in remote, tribal and LWE areas

Sr. No.	Description of the Item (Suggestive BOM)	Description of the Item Offered by the bidder	Qty. Per Set	Total Qty	Make	Model
1.	a) Digital Set Top Box with 3.0V DC battery operated Infra-red Remote control handset – 1 Set		1 Set	120000 Sets		
	b) Audio-Video cable with RCA connector (Length of cable -1.0 mtr) - 1 Set					
	c) HDMI Cable with connector (Length of cable - 1.0 mtr) - 1 Set					
	d) Power Supply cable with connector (in case of Internal Power Supply) / Power Supply Adaptor with connector (in case of external power supply) for STB- 1 Set					
	e) Packing box for above items with Imprinted DD FreeDish Logo.					
2.	a) 60 cm Receive PDA alongwith LNBF mounting Kit and universal mount (suitable for both roof and wall mount)		1 Set	120000 Sets		
	b) Packing box for above items with Imprinted DD FreeDish Logo.					
3.	Ku Band LNBF with		1 No.	120000		

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	packing box with Imprinted DD FreeDish Logo		Nos.	
4.	a) 75 ohm low loss RG-6 RF Cable (Copper/CCS) with Professional grade, compression type, ANSI/SCTE compliant "F" type male connectors on both sides, Length of cable-15 mtr b) Packing box for above items with Imprinted DD FreeDish Logo.	1 Set	120000 Sets	
5.	Documents: To be supplied and kept in each STB packing Box a) User manual (Installation and operation manual)- 1 Set b) Guaranty/ Warranty card, safety notes and other necessary instruction list if any – 1 Set.	1 Set	120000 Sets	

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Annexure-2

List of Consignees

FTA (Non- CAS) DTH Receive Sets to be supplied at:

North Zone-

O/o Addl. Director General (E)(NZ), All India Radio & Doordarshan, D-6 Godown, Probin Road, Mall Road, Delhi.

West Zone-

O/o Addl. Director General (E)(WZ), All India Radio & Doordarshan, Malad Godown, AIR HPT Complex, Marve Road, Malad (W), Mumbai-95

South Zone-

O/o Addl. Director General (E)(SZ), All India Radio & Doordarshan, Swami Sivananda Salai, Chennai -5

East Zone-

O/o Addl. Director General (E)(EZ), All India Radio & Doordarshan, Doordarshan Complex annex. Building, 18/3, Uday Sankar Sarani, Golf Green, Kolkatta- 700095.

North East Zone-

O/o the Addl. Director General (E)-NEZ-TVM, All India Radio & Doordarshan, Dr. P Kakoti's Building, G S Road, Ganeshguri, Guwahati-781006

Note: Quantity to be shipped to each consignee shall be intimated along with A/T.

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