



सत्यम् शिवम् सुन्दरम्

**प्रसार भारती**  
**PRASAR BHARATI**  
**(Broadcasting Corporation of India)**  
दूरदर्शन महानिदेशालय  
**Directorate General: Doordarshan**  
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नई दिल्ली - ११०००१  
**New Delhi - 110 001**

**File No. 19(2)2018-19E1 (P) TV**

**Dated: 28.01.2019**

**Subject:** Draft Specification for Supply Up- converter and down-convertors at 11 Earth Stations.

The Draft specification of the upcoming tenders is enclosed herewith to offer comments, if any by due date at e-mail address [ddpurchase401@yahoo.co.in](mailto:ddpurchase401@yahoo.co.in) or on following Address:


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Specification For: Draft Specification for Supply of Up- converter and down-convertors at 11 Earth Stations.

Specification no: SATD/ ES\_11 Nos.\_ Up- converters /Jan\_2019 dated 14/01/2019

Due Date to offer Comments: **12.02.2019**

Encl.: As above

  
Prabhat Kumar Singh  
Assistant Engineer  
For DG: DD

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

**Specification for**  
**"Supply of C Band Up- converter and down-convertors**  
**For Earth Station for 11 Locations"**

**Specification No.: SATD/ES\_11 Nos. Up converters/Jan\_2019**

**Date: 14/01/2019**

**Technical Specifications for Supply of Supply of C Band Up- converter and  
Down convertors for Earth Station at 11 Locations"**  
**(Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur,  
Jammu, Kolkata, Lucknow, Thiruvananthapuram)**

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## **1. Introduction :**

This document lays down technical specifications for "Supply of C band Up-convertors and down convertors for Digital Earth Station at 11 Locations" namely Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram.

## **2. Scope :**

- 2.1 The scope of the tender shall include "Supply of C band Up-convertors and down convertors for Digital Earth Station at 11 Locations namely Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram for use in existing chain of Modulator and RF equipment. The following equipments are to be supplied
  - a. C-Band Up-converter (U/C)
  - b. External RF Redundancy Switch for U/C Redundancy
  - c. Up-converter (70 MHz to L band)
  - d. C Band Down converter (C-Band downlink frequency to L Band Frequency)
- 2.2 The offered system shall meet the International standards for digital satellite broadcasting.
- 2.3 The offered system would also include the standard accessories supplied by the Manufacturer along with the items mentioned in para 2.1

## **2 Eligibility Criteria :**

The Bidder and original equipment manufacturer (OEM) shall have to meet the following eligibility criteria:-

- 3.1 The bidder should be the original equipment manufacturer (OEM) of C band Up converters, down converter, and Redundancy Switches system or their authorized representative/dealer in India.
- 3.2 In case bidder is the authorized representative/dealer of C band Up converters, down converter, and Redundancy Switches system, it should be in the business of sales and supply of Broadcast Equipment for at least past three years. Copies of orders and completion certificates/delivery challans/dispatch certificates/copy of invoice to support this must be provided.
- 3.3 Bidder shall offer C band Up converters, down converter, and Redundancy Switches of only those OEMs who are having past experience of:
  - 3.3.1 At least five years of manufacturing similar Up converters, down converter and Redundancy Switches.
  - 3.3.2 Supplying at least 20 Nos. of offered Up-converters and down converter and 10 nos. of redundancy Switches in immediate preceding past five years.
- 3.4 Copies of documentary evidence from OEM ie. supply order and receipt certificates/delivery challan/factory dispatch documentary/copy of invoice in respect of above said quantities at para 3.3.2 in preceding past five year should essentially be submitted along with the bid document.
- 3.5 The bidder must have his local office/ authorized representative/ dealer in India for after sales support etc.
- 3.6 The bidder must have a valid Dealer Possession License at the time of submission of bid. A copy of valid Dealer Possession License should be submitted along with the bid.
- 3.7 The cutoff date for the experience shall be the date of NIT.

## **3 General Requirements:**

- 4.1 The bidder shall submit only one solution (Single BOM) for the offered system. Bid with multiple options against any requirement is liable to be rejected.

- 4.2 The project will consist of Supply of the C band Up converters, down converter, and Redundancy Switch system at Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram as detailed at Clause No. 2, Scope of Tender.
- 4.3 Each and every offered equipment and accessories including software should be from internationally reputed manufacturer and the quoted model should be of high class, high MTBF, field proven and in use by leading broadcasters/organizations in various continents of the World. Any customized product which is not field proven in the industry will not be acceptable
- 4.4 All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying any end of life of the software. Software upgrades within warranty period will have to be supplied free of cost
- 4.5 For facilitating maintenance issues, bidder must also submit firm's self certified copies of Bill of Entry/Custom Invoice of all imported items to DG: DD for release of PBG.
- 4.6 The installation, testing and commissioning of the equipment supplied at site will be done by Doordarshan as per procedure laid down in the installation manual of respective equipment. The installation manual should also include list of Do's & Don'ts and step by step procedure for configuration etc. Bidder must submit copy of the installation manual along with the bid.
- 4.7 Testing and Commissioning at site: Site Acceptance Test (SAT)**
- 4.7.1 The C band Up converters, down converter, and Redundancy Switch system shall be installed, configured, tested and commissioned at site by Doordarshan as per the instructions contained in the manufacturer's installation manual.
- 4.7.2 However, the local representative of the OEM/bidder shall be responsible for resolving any issues related with installation, configuration, testing and commissioning of the C band Up converters, down converter, and Redundancy Switch system.
- 4.7.3 If required, local representative of the OEM/bidder may also arrange the visit of OEM Engineer at site.
- 4.8 In the process of technical evaluation Doordarshan can ask for any clarification/ query as required through e-mail/FAX/Post etc, which shall be treated as a part of tender and invariably attended and replied by the bidder within the time stipulated therein.

- 4.9 Bidder may have to demonstrate the features of equipment offered as and when asked as part of technical evaluation of Tender. However it will not bestow any right of acceptance of the bid.
- 4.10 Cross reference in respect of supporting documents, should be given with proper page number and volume no. etc. If required Doordarshan may also ask for any other supporting document to ascertain the claim of bidder and their OEM
- 4.11 The successful bidder must submit the firm's self certified copies of import license at the time of commissioning in respect of RF Equipment for issuance of operating license from WPC. All invoices shall bear Serial Numbers of the equipments to meet the requirement of WPC.
- 4.12 The successful bidder along with OEM will be responsible for providing after sales support of all the offered items as per para 8.3.
- 4.13 The bidder must have his local office/authorized representative/dealer in India for after sales support. The local office/authorized representative/dealer in India will be nodal point for resolving issues, related to installation, integration, configuration, testing, commissioning and after sales support. Details of OEM office and its location are to be provided along with bid.
- 4.14 If required, bidder may have to give a presentation to explain their technical offer within one week from the date of issue of letter, as part of technical evaluation.

## **5 Technical Specifications of Major Equipment :**

### **5.1 Technical Specifications of C-Band Up-converter:**

#### **A. Essential Features :**

- a) The offered Up-converter and RF Redundancy Switch should be of same make so that both are compatible for providing the redundancy.
- b) In case of failure of main Up-converter, the RF Redundancy Switch (in case of the external RF Redundancy Switch) should be able to provide RF signal output from redundant Up-converter.
- c) In case of failure of main/redundant Up-converter, alarm should be generated to indicate the failure of main/ redundant Up-converter.

## B. Technical Specifications :

S. No.	Parameters	Specifications
(i)	Input Frequency	70 MHz $\pm$ 18 MHz
(ii)	Output Frequency range	5.85 GHz to 6.425 GHz
(iii)	Frequency Steps Size	Synthesized 125 KHz
(iv)	Frequency Stability	$\pm 1 \times 10^{-8}$ over operating range
(v)	Input return loss	18 dB minimum
(vi)	Input Impedance	75 Ohms
(vii)	Output Impedance	50 Ohms
(viii)	Output return loss	18 dB minimum
(ix)	Output Power	+10 dBm (min.) at P1 dB
(x)	Gain	30 dB (min.)
(xi)	Amplitude response/ Gain Flatness	$\pm 1.0$ dB per 36 MHz (Max)
(xii)	Gain Adjustment step size	0.2 dB (Max)
(xiii)	Phase Noise	IESS308/309 compliant or better
(xiv)	Spurious	-60 dBc carrier related -70 dBm Non carrier related
(xv)	Input Connector	BNC(F)
(xvi)	Output Connector	N Type(F)/ SMA(F)
(xvii)	Power Supply	230Volts, 50 Hz Nominal (Single Phase)
(xviii)	Remote Control	RS232 or RS422/485 or RJ 45

## 5.2 Technical Specifications for RF Redundancy Switch

### A. Essential Features:

- (i) External RF Redundancy switch is required for providing the Up-converters in 1+1 redundant configuration.
- (ii) The switch should be able to accept alarm signal from both main and redundant Up-converter.
- (iii) In case of failure of main Up-converter, the switching system should be able to provide RF signal output from non-faulty redundant Up-converter.
- (iv) Facility for Automatic, Manual and Remote (through NMS) switching should be available.
- (v) In case of failure of main/redundant Up-converter, alarm should be generated to indicate the failure of main/redundant Up-converter.
- (vi) The switch should have high reliability and should be of professional type.



## B. Technical Specifications:

S. No.	Parameters	Specifications
(i)	Operating Frequency Range	5.85 GHz to 6.425 GHz
(ii)	Insertion loss	$\leq 0.5$ dB
(iii)	Isolation	60 dB or better
(iv)	Input return loss	13 dB min
(v)	Output return loss	13 dB min
(vi)	RF Input/ Output Connector	SMA/N-Type
(vii)	Impedance	50 Ohm
(viii)	Remote control	RS232 or RS422/485 or RJ 45

### 5.3 Specifications for L-band Up-converter (70 MHz to L-band)

70 MHz to L-band Up-converter is to be used to check the monitoring output of modulators. Output of this Up-converter will be fed to IRD through RF Patch panel. The Specifications are detailed below:

S. No.	Parameter	Specifications
a)	Input Frequency	70 MHz $\pm$ 18 MHz
b)	Output Frequency range	950 MHz to 1450 MHz
c)	Input return loss	15 dB minimum
d)	Output return loss	15 dB minimum
e)	Phase Noise	IESS308/309 compliant
f)	Spurious	-55 dBc carrier related -65 dBm Non carrier related

### 5.5 Technical Specifications For Down Converter(C to L Band)

S. No.	Description	Specifications
1	Input Frequency Band	3.7 GHz to 4.2 GHz
2	Output Frequency Band	950 – 1450 MHz
3	RF Input Return Loss	18 dB minimum
4	Output Return Loss	15 dB minimum
5	Noise Figure	20 dB maximum
6	Impedance	a) 50 Ohms input b) 50 Ohms output
7	Frequency stability	a) Daily $\pm 5 \times 10^{-9}$ max b) Yearly $\pm 1 \times 10^{-7}$ max c) $\pm 2 \times 10^{-8}$ max over entire

		operating Temp.
8	Spurious	a) -60 dBm maximum (Non Carrier) b) -55 dBc maximum (Carrier)
9	Phase Noise	As per IESS 308/309 (phase noise profile)
10	Output Power at P1dB	+5dBm minimum
11	Conversion Gain	20dB+1dB minimum
12	Gain Stability	+1.0 dB over temperature range
13	Gain Flatness	±0.5 dB across any 40 MHz at constant temperature
14	Input Connector	N type
15	Output Connector	Suitable for terminating at F Type Patch panel

## 6 General Physical, Environmental & Mechanical Specifications

Following specification is to be followed if not mentioned elsewhere in this document:

### 6.1 Power Supply

Equipment shall operate from a wide range of power supply voltages without interruption or damage.

Parameter	Specification
(a) Voltage Range	: 220/240 V AC nominal
(b) Frequency	: 48-52 Hz

### 6.2 Environmental Specifications

Parameter	Specification
(a) Operating Temperature (Indoor)	: 0°C to 45°C
(b) Operating Temperature (Outdoor door)	: -10°C to 50°C
(c) Storage Temperature	: -20°C to 60°C
(d) Humidity (Indoor)	: 0 to 85% non-Condensing
(e) Humidity (Outdoor)	: 0 to 100%
(f) Altitude	: 0 to 2000 m

### 6.3 Mechanical Specifications

Indoor equipment shall be rack mounted.

Parameter	Specification
(a) Construction	: Modular approach, EIA RS-310C, 19" rack-mount

## 7 Complement of Equipment:

7.1 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).

- 7.2 The suggestive Bill of Material (BOM) has been provided in **Annexure-I**. 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. The following is the Proforma for the BOM:

Sl. No.	Description of Item as per Specification (Suggestive BOM)	Description of Item as offered by the Bidder	Qty. per site	Total quantity as per Suggestive BOM	Make	Model
1	2	3	4	5	6	7

- 7.3 Any substandard equipment included in the offer may result into the rejection of complete offer with the sole responsibility of bidder.
- 7.4 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.
- 7.5 General specifications applicable to all equipment wherever applicable have been given in Clause No. 6.

## 8 General

### 8.1 Compliance and Authorization:-

- 8.1.1 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.
- 8.1.2 In addition to the above, compliance from respective OEMs (not from representatives) in respect of all the equipments listed below should necessarily be given on their letter heads, with reference to the points, sub-points and paras laid down in the technical specifications of All equipment listed below:

- i) C band Up-converter
- ii) Redundancy switch
- iii) C Band Down converter (C-Band downlink to L Band Frequency)
- iv) Up-converter (70 MHz to L band)

8.1.3 Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.

8.1.4 Compliance statement in the format as indicated below shall only be accepted.

Sr. No. of DD specs.	DD Specs.	Compliance (Yes/No)	Performance fig. of equipment offered.	Deviations, in case of non-compliance	Optional items if any required to make the system Compliant to DD specs.	Features in the system offered Which exceed DD specs.	Page No.	Remarks
1								
2								
3								
4								

8.1.5 The manufacturer should also record the performance figures of the equipment offered in the quote for which the compliance statement is enclosed.

8.1.6 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 specs. Any offer without proper supporting document of each & every specs and containing only a commercial hand out/pamphlet is liable to be rejected.

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

8.1.8 The OEM's authorization (not from representative) in respect of all equipment listed under Sr. No. 8.1.2 should also be given on their letter heads along with bid (Annexure II).

- i) C band Up-converter
- ii) Redundancy switch
- iii) C Band Down converter (C-Band downlink to L Band Frequency)
- iv) Up-converter (70 MHz to L band)

8.1.9 Data sheets should be submitted in respect of all 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 above.

## **8.2 Documentation**

8.2.1 One set of technical manual for all equipment are to be provided along with the tender to facilitate the technical evaluation, otherwise the tender is liable to be ignored.

8.2.2 The successful bidder will have to supply set of printed technical manuals and installation manual along with factory test report for all equipment.

8.2.3 Technical Manual and installation for all equipment should also be supplied on CD/DVDs with search facility.

8.2.4 All offered software should have perpetual validity and should be in the name of Doordarshan. All software backups should also be supplied on CD/DVDs.

8.2.5 The successful bidder must submit the firm's self certified copies of import licenses at the time of commissioning in respect of RF equipment for issuance of operating license for WPC.

- a) For facilitating maintenance issues, the bidder must submit the firm's self certified copies of Bill of Entry/Bill of Laden/Custom

Invoice of all imported items to DG:DD at the time of release of PBG.

- b) The successful bidder must ensure that all Invoices bear serial numbers of equipment to meet the requirement of WPC.

### **8.3 Guarantee**

- 8.3.1 The manufacturer shall guarantee satisfactory working of the offered C band Up converters, down converter, and Redundancy Switch system without any fault and defect for three years from the date of receipt of last accepted consignment.
- 8.3.2 Any defect or failure of any module/equipment during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective module/equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
- 8.3.3 It is the responsibility of local office/ Authorized representative/ dealer of the bidder to arrange the repair/ replacement of faulty items for Doordarshan i.e. transportation charges would not be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
- 8.3.4 Guarantee period is to be extended corresponding to the outage period if the failure rectification takes more than 15 days time.
- 8.3.5 Bidder shall provide the guarantee/warranty through the OEM. A certificate duly signed by the OEM on the OEM's letterhead, in this regard of offered C band Up converters, down converter, and Redundancy Switch system must be submitted with the offer by the bidder in the format as prescribed in Annexure III.
- 8.3.6 After sales service support for additional 2 (TWO) years for the repairs/maintenance of C band Up converters, down converter, and Redundancy Switch system after the completion of guarantee/warranty period shall also be provided by the OEM of the C band Up converters, down converter, and Redundancy Switch system

either directly or through his representative in India. In this regard a certificate, duly signed by the OEM on the letterhead, must be submitted with the offer by the bidder.

8.3.7 The successful bidder will be responsible for providing after sales service support of all the offered equipment for Five years from the date of receipt of last accepted consignment including three (3) years warranty period. The bidder must submit undertaking for providing after sales service support for additional Two (2) years after the end of warranty period along with bid.

8.3.8 If bidder is not the OEM of the offered equipment, then after sales service support for the repairs/maintenance for 3 years warranty period and for 2 years after the completion of guarantee/warranty period shall also be provided by the OEM either directly or through its representative in India. A certificate, on the letterhead, in this regard duly signed by the OEM must be submitted with offer by the bidder in the format as prescribed in Annexure IV.

#### **8.4 Inspection and Commissioning:**

8.4.1 All equipment to be supplied against the supply order for this tender shall be subjected to pre-dispatch inspection in India. The successful bidder should produce the factory test reports of all the offered equipment to facilitate inspection.

8.4.2 The inspection of the equipments will be carried out by a team of Doordarshan based on approved Acceptance Test procedure (ATP). A copy of ATP (Acceptance Test procedure) must be submitted by the bidder within one month of issue of A/T (Acceptance of Tender) for approval by Doordarshan. ATP should describe the standard test procedure of individual equipments. The factory test report will not be treated as ATP. The accepted ATP/ approved ATP with or without changes shall be sent back to the bidder to be used for inspection of ES equipments by DD Engineer(s) at inspection site.

8.4.3 As the local office/authorized representative/dealer will be nodal point for resolving issues related to testing, the local representative of the OEM/bidder may also arrange the visit of OEM's Engineer at site if required or any issue with ATP. The factory test report will not be treated as ATP.



8.4.4 The accepted ATP / approved ATP with or without changes shall be sent back to the successful bidder for their reference, which will be used for inspection and commissioning of ES equipments by DD Engineer(s) at site.

## **8.5 Delivery Period**

Within 5 months from the date of issue of purchase order or 3 months from the date of the decision letter from WPC provided by DD in respect of all equipment, whichever is later.

## **8.6 Pre-bid Conference**

8.6.1 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.

8.6.2 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.

8.6.3 Amendments subsequent to the pre bid conference shall be sent to prospective bidders, who have purchased tender document, by e-mail/ fax/ post.

8.6.4 It shall be bidder's responsibility to check for any amendments/ addendum on the website before submitting their duly completed bids.

## **8.7 Check List and Enclosures**

The bidders may ensure the following check list while submitting the bid including some important list of enclosures for ease of technical evaluation (Annexure V).

8.7.1 Whether documents related to fulfilment of the eligibility criteria as per Clause 3 have been submitted.

8.7.2 Whether point-by-point compliance statement of the bidder in respect of all the points, sub-points and Paras laid down in this specification

from page 1 onwards along with the offer as given in Clause 8.1.1 has been included.

- 8.7.3 Whether point-by-point compliance statement of OEM in respect of all the points, sub-points and Paras laid down in the specification of respective equipment and their authorization mentioned in Clause 8.1.2 & 8.1.3 have been included. Authorization and Compliance Statement from OEMs will only be acceptable and not from the authorized dealer of the OEMs.
- 8.7.4 Whether the Compliance has been submitted in the prescribed format as given in Clause 8.1.5.
- 8.7.5 Ensure that all equipment and accessories as given in the Suggestive bill of material have been included in the offered BOM.
- 8.7.6 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.
- 8.7.7 Whether the requisite undertakings for after-sales support by OEMs and bidder have been submitted.
- 8.7.8 Ensure that no alternate item has been offered.
- 8.7.9 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.
- 8.7.10 Ensure that the Un-priced BOM has been included.
- 8.7.11 Any other item mentioned elsewhere in the tender.

**Suggestive Bill of Material (BOM)****Supply of Up-Converters for Earth Station-11 Locations**

(Jalandhar, Shimla, Ahmedabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow, and Thirunanthapuram)

(Bidders must submit BOM as per Proforma given in Clause 5)

Sr. No.	Description of Item as per Specification (Suggestive BOM)	Description of Item as offered by Bidder	Qty. per site	Total Qty. as per suggestive BOM	Remarks	Make	Model
<b>A.</b>	<b>Up converters in (1+1) configuration consisting of:</b>						
a)	C Band Up converter (with built-in redundancy controller or with external C-band RF Redundancy switch)		4 Nos.	44 Nos.			
b)	RF Redundancy switch (C- band) for up converter		2 Nos.	22 Nos.			
c)	C Band Down converter (C-Band downlink frequency to L Band Frequency)		1 No.	11 Nos.			
d)	Up-converter (70 MHz to L band)		1 No.	11 Nos.			
<b>B.</b>	<b><u>Training</u></b>						
a)	In India: One day on site training (including Theoretical (along with basic study material) & Practical training, hands on experience) on C-Band Up-converters (U/C) & C to L-band down converter, External RF Redundancy Switch and other supplied material for Doordarshan personnel at each site. (Note: Training will not be treated as part of the delivery period)		1 Lot	11 Lots			
<b>C.</b>	<b><u>Documentation</u></b>						
	<b>Equipment manuals consisting of:</b>		1 Lot	11 Lots			

a)	Operation/User Manual and installation manual Hard copy and Soft copy on CDs with Search facility for all the supplied equipment. (2 Sets for each Kendra, 1 Set for DG:DD and 1 Set each for ADG(NZ)/ ADG(SZ)/ ADG(EZ)/ ADG(WZ)).						
b)	All software backups are to be supplied on CDs.						
c)	Firm's self certified copies of import license in respect of RF Equipment (C band Up converters, down converter system etc. for issuance of operating license from WPC. – 4 Sets for each site.						

**OEM LETTER HEAD**

**CERTIFICATE FOR AUTHORIZATION**

**Date:**

**Tender No. :**

We, M/s ..... (Name and Address of the OEM), do hereby authorize M/s..... (Bidder's name), having its office at ..... (Bidder's address) to submit the bid and sign the contract with Doordarshan for the products offered by us against the above tender.

Signature

.....

Name & Designation of authorized signatory.....

Name of the OEM -

.....

Stamp

<b>OEM LETTER HEAD</b>
------------------------

**CERTIFICATE FOR GUARANTEE****Date:****Tender No. :**

We, M/s ..... (Name and address of the OEM), do hereby confirm that:

1. All the offered equipment shall be guaranteed against any defect for a period of 3 (THREE) years from the date of Commissioning.
2. Any part failing during the guarantee period shall be repaired/replaced free of charge by the successful bidder at site. For repairing of any defective equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to local office/local authorized representative/ dealer who will arrange repairs locally at site or send/export the defective modules to OEM factory and re-import/send back after repairs.
3. It is the responsibility of M/s -----, ( their local office/ Authorized representative/ dealer of the bidder) to arrange the repair/ replacement of faulty items for Doordarshan i.e. no transportation charges would be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
4. Guarantee period may be extended corresponding to the outage period if the failure rectification takes more than 15 days' time.
5. All software being offered, are to be licensed to Doordarshan on perpetual basis without specifying any time limit or without specifying end of life of the software. Software upgrades within warranty period will have to be supplied free of cost.

**Signature**

.....

....

**Name & Designation of authorized signatory**.....**Name of the OEM -**

.....

**Stamp**

<b>OEM LETTER HEAD</b>
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**CERTIFICATE FOR AFTER SALES SERVICE SUPPORT****Date:****Tender No. :**

We, M/s ..... (Name and address of the OEM), do hereby confirm that after sales service support for additional Two (2) years for the repairs/maintenance of offered products after the completion of three (3) Years guarantee/ warrantee period shall be provided through our representatives/authorized dealer/service provider for the offered equipment and accessories in India as mentioned below:

S. No.	Name of the authorized person	After sales & support office address	Telephone/ Fax	Email of concerned personnel
1				

**Signature**

.....

Name &amp; Designation of authorized signatory .....

Name of the OEM -

.....

**Stamp**

<b>BIDDER LETTER HEAD</b>
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**DECLARATION BY THE BIDDER**

1. Bill of Material (BOM)- : [Yes/No]
2. Bidder's compliance (As per specs clause no. 8.1.1) : [Yes/No]
3. The copy of Dealer Possession License in case of possession of RF equipment (as per clause no. 3.6) : [Yes/No]
4. Copy of the Memorandum of Understanding (MOU) (if any) of partnership (as per clause no. 3.7) : [Yes/No]
5. OEM Compliance for following equipment from their respective OEMs (as per clause no. 8.1.2):

S. No.	Name of equipment	Name of OEM	OEM compliance submitted (Yes/ No)
i.	C band Up-converter		
ii.	Redundancy switch (if any)		
iii.	C Band Down converter (C-Band downlink frequency to L Band Frequency)		
iv.	Up-converter (70 MHz to L band)		

6. Certificate for Authorization for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Authorization certificate submitted ( Yes/ No)
i.			
ii.			
iii.			
.			
.			



7. Certificate for Guarantee for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	Guarantee certificate submitted (Yes/ No)
i.			
ii.			
iii.			
.			
.			
.			

8. Certificate for After sales service support for following equipment from their respective OEMs:

S.No.	Name of equipment	Name of OEM	After sales service support certificate submitted ( Yes/ No)
i.			
ii.			
iii.			
.			
.			
.			

9. Datasheet for the offered equipment as per offered BOM:

[Yes/No]

i.

ii.

iii.

Signature

.....  
Name & Designation of authorized signatory.....

Name of the Bidder -

.....  
Stamp