



सत्यम् शिवम् सुन्दरम्

प्रसार भारती
PRASAR BHARATI
(Broadcasting Corporation of India)

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New Delhi - 110 001

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Dated: 22.01.2019

Subject: Draft Specification for Supply of 32 x 32 Routers 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 or on following Address:

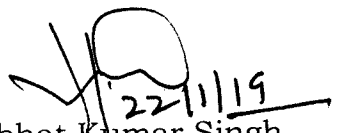
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Specification For: Draft Specification for Supply of Supply of 32 x 32 Routers at
11 Earth Stations.

Specification no: SATD/ Routers /11 Nos./Jan_2019 dated 15/01/2019

Due Date to offer Comments: **07.02.2019**

Encl.: As above


Prabhat Kumar Singh
Assistant Engineer
For DG: DD

**Prasar Bharati
Directorate General: Doordarshan
Doordarshan Bhawan: Copernicus Marg
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**Specification for "Supply of 32 x 32 routers at 11 Earth
Stations"**

**Specification No.: SATD/Routers/11 Nos./Jan_2019
Date: 15/01/2019**

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Specification No.: SATD/Routers/11 Nos./Jan_2019

Technical Specification for Supply of 32 x 32 routers at 11 Earth Stations Locations (Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow, Thiruvananthapuram)

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1. Introduction:

1.1 This document lays down technical specifications for Supply of 11 sets of 32x32 HD/SD-SDI/ASI Routers for Earth Stations at 11 Locations namely, DDK Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram.

2. Scope:

2.1 The scope of the tender shall include “32 x 32 HD/SD-SDI/ASI router alongwith one XY Control panel and two single bus remote control panels, one set each at Jalandhar, Shimla, Ahmadabad, Bhopal, Bhubaneswar, Chennai, Jaipur, Jammu, Kolkata, Lucknow and Thiruvananthapuram for use in existing input chain of Satellite Earth Station equipment and existing monitoring system at each of the 11 Earth Stations”.

2.2 The base band signals received directly from MSR through existing OFC receiver will be brought up to the existing patch panel, then from patch panel to input of offered HD/SD-SDI/ASI router, from output of offered HD/SD-SDI/ASI router to patch panel and finally from patch panel to input of existing encoders. In addition, part of the router would also be used in the monitoring chain of all input equipment, downlink chain, compression and RF equipment alongwith other associated existing equipment.

2.3 The offered system shall meet the International standards for digital satellite broadcasting.

2.4 The offered system would also include the standard accessories supplied by the Manufacturer alongwith the 32 x 32 HD/SD-SDI/ASI routers.

3. Eligibility Criteria:

3.1 The bidder should be the original equipment manufacturer (OEM) of 32 x 32 HD/SD-SDI/ASI routers or their authorized representative/dealer in India.

3.2 Bidders shall offer 32 x 32 routers with one XY Control panel and two single bus remote control panels of only those OEMs who are having past experience of at least Five years of manufacturing and supplying similar routers.

3.3 OEM should meet the following eligibility criteria:

3.3.1 The OEM of 32 x 32 routers must have experience of supplying at least 50 numbers or more of offered router to reputed broadcasters in the past five years.

3.3.2 Copies of supply orders and receipt certificates/delivery challans/dispatch certificates in respect of above said quantity of 32 x 32 routers in the

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preceding past five year should essentially be submitted along with the bid document.

- 3.4 In case bidder is the authorized representative/dealer of 32 x 32 routers, 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 to support this must be provided.
- 3.5 The bidder must have his local office/authorized representative/dealer in India for after sales support.
- 3.6 The cutoff date for the experience shall be the date of NIT.

4. General requirement for completing the offer:

- 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 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.
- 4.3 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.
- 4.4 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.
- 4.5 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 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 alongwith the bid.
- 4.6 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.
- 4.7 **Testing and Commissioning at site:** Site Acceptance Test (SAT)

- 4.7.1 The 32 x 32 routers 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 32 x 32 routers. 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.

5. Technical Specifications of 32 X 32 HD/SD-SDI/ASI Routers:

A. General

32x32 HD/SD-SDI/ASI Routing switcher should be very reliable and able to be used for selection of any one of the 32 HD/SD-SDI/ASI input signals to 32 different destinations. The equipment offered should be for 24x7 use in Broadcast applications. The router has to be quoted with one XY and two single bus (X) control panels.

B. Essential features

(a)	The routing switcher electronics should be capable of being mounted in a standard 19" rack frame.
(b)	The routing switcher shall handle HD/SD-SDI/ASI signal for routing from input to output destinations. The switching should take place during the vertical interval period.

(c)	The routing switcher shall pass SD-SDI with embedded audio, HD-SDI with embedded audio (including Dolby Digital (AC-3) 5.1, Dolby digital plus 5.1 & Dolby E audio) and ASI signal for routing from input to output destinations of their respective port.
(d)	The routing switcher should have storage facilities for control information, so that in case of power supply failure, the status of the switcher output should remain unchanged after the power supply is restored.
(e)	The routing switcher should have auto-switchable redundant power supplies.
(f)	The routing switcher should have redundant cross points.
(g)	The routing switcher should have redundant controller/logic cards.
(h)	The routing switcher quoted against this specification should be complete in all respect and should have the desired features.

C. Technical Specification

(a)	Matrix size	32 HD/SD-SDI/ ASI inputs. 32 destinations (output buses) output HD/SD-SDI/ASI
(b)	Input	SDI (BNC 75 ohms) SMPTE 259-M, SMPTE 292M, MPEG-2 TS over DVB ASI
(c)	Equalization	Automatic: 150 Meters at 270 Mbps, 100m at 1.5 Gbps for Belden 1694 or equivalent cable
(d)	Output	HD/SD-SDI/ASI for each 32 destinations; BNC; 75Ω 800 mV±10%, SMPTE 259-M, SMPTE 292M
(e)	Return Loss	Should be maintained better than 15 dB upto 1.5Gbps throughout the switching chain.

6. Physical, Environmental & Mechanical Specifications

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 40°C
(b) Storage Temperature	- 20°C to 70°C
(c) Humidity (Indoor) non-condensing	0 to 85%
(d) Altitude	0 to 2000 m

6.3 Mechanical Specifications

Offered equipment shall be rack mounted.

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

7. Complement of Equipment:

- 7.1 The quantity, make and model/part no. of all the equipment 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.
- 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 the equipment have been given in Clause No. 5.

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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 clauses laid down in this specification from page 1 onwards along with the offer.
- 8.1.2 In addition to the above, compliance from the OEM of offered equipment on their letter head should necessarily be given, with reference to the points, sub-points and clauses laid down in the technical specifications.
- 8.1.3 The OEM's authorization (not from representative) should also be given on their letter head along with bid in the format prescribed in Annexure - II.
- 8.1.4 Mere signature on a copy of Doordarshan specifications shall not be accepted as a compliance statement.
- 8.1.5 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								

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

- 8.1.7 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 specs. Any offer without proper supporting document of each & every specs and containing only a commercial hand out/pamphlet is liable to be rejected.
- 8.1.8 Data sheets/ relevant technical literature should be submitted in respect of 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 above.
- 8.1.9 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.

8.2 Documentation

- 8.2.1 One set of technical manuals/relevant technical literature for the 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 Technical literature would include Installation Manual and Operation & Maintenance manual.
- 8.2.3 The successful bidder will have to supply set of printed technical manuals along with factory test report of the offered equipment.
- 8.2.4 Technical Manual for all equipments should also be supplied on CD/DVDs with search facility.
- 8.2.5 All offered software should be in the name of Doordarshan and should have perpetual validity. All software backups should also be supplied on CD/DVDs.
- 8.2.6 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.

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8.3 Guarantee

- 8.3.1 The manufacturer shall guarantee satisfactory working of the offered 32 x 32 HD/SD-SDI/ASI routers without any fault and defect for three years from the date of receipt of last accepted consignment at respective consignee's premises.
- 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/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 32x32 routers 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 offered equipment after the completion of guarantee/warranty period shall also be provided by the OEM of the offered equipment 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 support of all the offered equipment for Five years from the date of receipt of last accepted consignment at respective consignee's premises including three (3) years warranty period. The bidder must submit undertaking for providing after sales 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 V.

8.4 Inspection:

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

8.4.2 The inspection of equipment will be carried out by a team of Doordarshan authorized by Doordarshan Directorate. A draft copy of ATP (Acceptance Test Procedure) must be submitted by the bidder within one month of issue of A/T. ATP should describe the standard test procedure of individual equipment. The factory test report will not be treated as ATP. The accepted ATP with or without changes shall be sent back to the successful bidder and it will also be used for inspection and commissioning of equipment by DD Engineer(s) at site.

8.5 Delivery Period

Four months from the date of issue of purchase order.

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.

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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.

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 clauses 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 clauses as laid down in the specification of respective equipment and their authorization mentioned in Clause 8.1.2 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 authorisation has been submitted in the prescribed format as given in Clause 8.1.3.

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 installation manual, 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.

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Annexure-I

Suggestive Bill of Material (BOM)

For Providing 32 x 32 HD/SD-SDI/ASI routers at 11 Earth Stations Locations

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

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	Make	Model	Remarks
1	32 x 32 Router						
a)	32 x 32 HD/SD-SDI/ASI router with one XY Control panel and two single bus remote control panels.		1 Set	11 Sets			
b)	Any other item found essential to meet DD specifications. Note: If offered, bidder must provide the detail.		1 Lot	11 Lots			
2	Equipment manuals consisting of:		1 Lot	11 Lots			
a)	Installation, Operation/User 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) and ADG(WZ))						
b)	All software backups are to be supplied on CDs.						
3	Training						
a)	In India: One day on site training (including Theoretical (alongwith basic study material) & Practical training, hands on experience) on 32x32 Router for Doordarshan		1 Lot	11 Lots			

personnel at each site. (Note: Training will not be treated as part of the delivery period)						
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OEM's LETTER HEAD

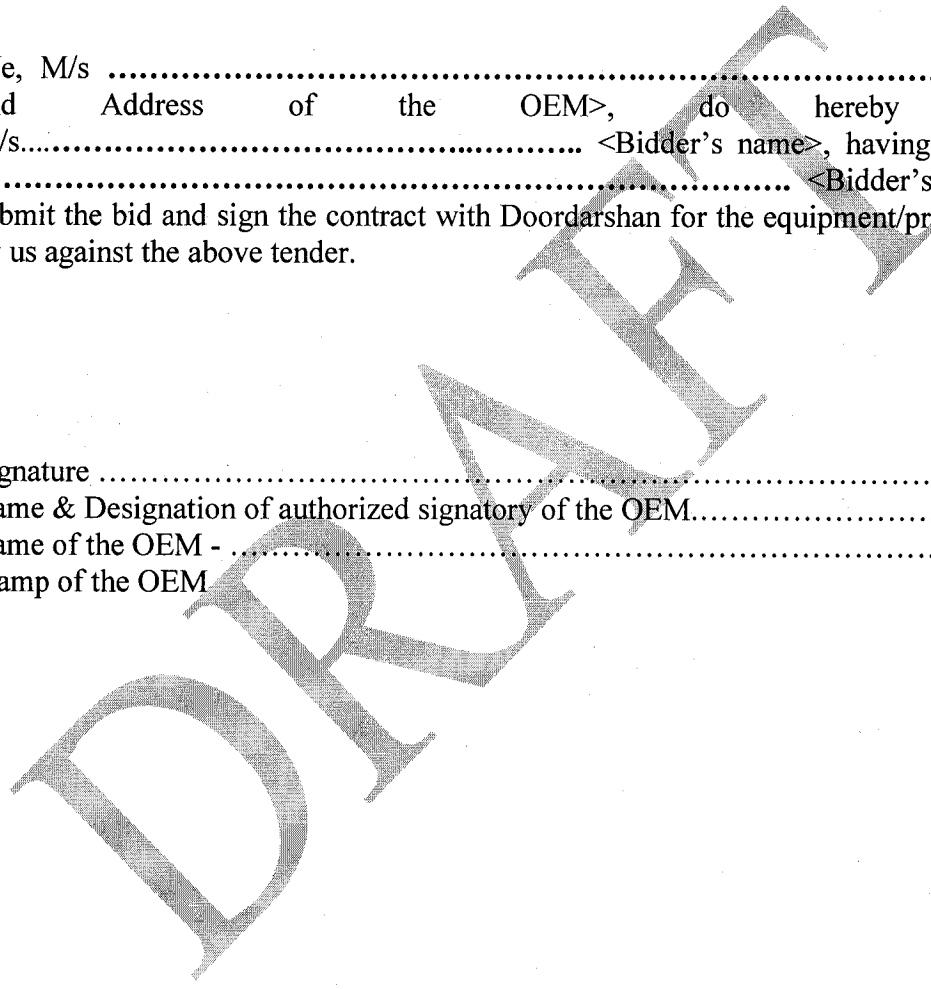
CERTIFICATE FOR AUTHORIZATION

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 equipment/product offered
by us against the above tender.

Signature
Name & Designation of authorized signatory of the OEM.....
Name of the OEM -
Stamp of the OEM



OEM's LETTER HEAD

CERTIFICATE FOR GUARANTEE

Date:

Tender No. :

We, M/s<Name and address of the OEM>, do hereby confirm that:

1. The offered 32 x 32 HD/SD-SDI/ASI router alongwith one XY Control panel and two single bus remote control panels shall be guaranteed for satisfactory working without any fault and defect for three years from the date of receipt of last accepted consignment at respective consignee's premises.
2. Any defect or failure of any module/equipment during the guarantee period shall be repaired/replaced free of charge at site. For repairing of any defective module/equipment during guarantee period, the defective module or equipment requiring repairs will be handed over to M/s<Name of local office/local authorized representative/dealer> who will arrange repairs locally at site or send/export the defective modules to our factory and re-import/send back after repairs.
3. It is the responsibility of M/s<Name of local office/local authorized representative/dealer> to arrange the repair/ replacement of faulty items for Doordarshan i.e. transportation charges are not to be paid by DD for transporting the defective/ repaired items, if required to be removed from site, during the guarantee period.
4. Guarantee period of the equipment would be extended corresponding to the outage period if the failure rectification takes more than 15 days time.
5. After sales service support for additional 2 (TWO) years for the repairs/maintenance of Earth Station equipment after the completion of guarantee/warrantee period shall also be provided by M/s<Name of the OEM of the 32x32 router> either directly or through M/s<Name of OEM's 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.
6. All offered software will 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 be supplied free of cost.

Signature

Name & Designation of authorized signatory.....

Name of the OEM -

Stamp of the OEM

OEM's LETTER HEAD

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 & Designation of authorized signatory of the OEM.....

Name of the OEM.....

Stamp of the OEM.....

BIDDER's LETTER HEAD

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 respective OEMs (as per clause no. 8.1.2):

S. No.	Name of equipment	Name of OEM	OEM compliance submitted (Yes/ No)
i.	32x32 HD-SD/SDI/ASI Router		

- 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.	32x32 HD-SD/SDI/ASI Router		

- 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.	32x32 HD-SD/SDI/ASI Router		

- 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.	32x32 HD-SD/SDI/ASI Router		

9. Datasheet for the offered equipment: [Yes/No]
- i.
 - ii.

Signature

Name & Designation of authorized signatory of the bidder.....

Name of the Bidder.....

Stamp of the bidder

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