



**TAMILNADU ARASU CABLE TV CORPORATION  
LTD(TACTV)**

**தமிழ் நாடு அரசு கேபிள் டிவி நிறுவனம்  
(A Government of Tamil Nadu Undertaking)**



**TENDER REFERENCE NO. TACTV/005/STB franchisee/2022**

**Tender to Provide The Set Top Boxes Along With Conditional Access System(CAS),  
to TACTV on Franchisee Model**

Date of Release of Tender	21.01.2023
Pre bid Meeting	25.01.2023
Last Date for Submission of Bid	30.01.2023 (3.00 PM)
Date of Opening of Bid	30.01.2023 (3.30 PM)
Cost of Bid Document:	Rs.1000

## CONTENTS

Clause	Topic	Page No.
	Important Notice	4
1	Tender Notice	5
2.	Preamble	6
3.	Scope of Work	6
4.	Qualification Criteria	7
5.	Language of the Tender	11
6.	Consortium Agreement	11
7.	Purchase of Tender Documents	11
8.	Pre Bid Meeting	12
9.	Clarification on the Tender Document	12
10.	Amendment of Tender Document	12
11.	Authorization of the Tenderer	12
12.	Submission of Tender in Two Cover System	12
13.	Earnest Money Deposit	13
14.	Validity	14
15.	Opening and Evaluation of The Tender	14
16.	Price Offer	15
17.	Evaluation of the Price	15
18.	Bidding	16
19.	Award of Contract	17
20.	Security Deposit	17
21.	Agreement	18
22.	Issue of Purchase Order	18
23	Schedule of Supply	18
24.	Warranty	18
25.	Payment Terms	18
26.	Penalty	19
27.	Termination of the Contract	20
28	General Conditions	20
29	Assignment	20
30	Arbitration	21
31	Jurisdiction of the Court	21
	<b>ANNEXURES</b>	
I(A)	Technical Specifications	22
I(B)	CAS Providers	32
II	Compliance to the Technical specifications	33
III	List of referred Indian Standards	45
IV	List of referred International Standards	46
V	Details of the Tenderer	48
VI	Part I	49
VII	Annual Turnover Statement	51
VIII	Certification for not Black listed	52
IX	Declaration for not having tampered the tender document	53
X	Part-II (Covering Letter)	54

XI	Price Bid	55
XII	Checklist of Documents	56
XIII	List of service Centres in Tamil Nadu	58
XIV	Sample Submission Form	59
XV	Clarification on Tender Document format	60
XVI	Model Agreement Form	61
XVII	Bank Guarantee Format for Earnest Money Deposit	69
XVIII	G.O. on Restriction of Public Procurement from bidders of certain countries	71

## **IMPORTANT NOTICE**

This tender procedure is governed by the Tamil Nadu Transparency in Tenders Act, 1998 and the Tamil Nadu Transparency in Tender Rules, 2000 as amended from time to time. In case of any conflict between the terms and conditions in the tender document and the Tamil Nadu Transparency in Tenders Act, 1998 and The Tamil Nadu Transparency in Tender Rules, 2000 the Act and Rules shall prevail.

**TAMIL NADU ARASU CABLE TV CORPORATION LIMITED - Chennai.**

**(A Government of Tamil Nadu Undertaking)**

**Tender NOTICE**

**No: TACTV/Tender/005/STB-Franchisee/2022**

Tamil Nadu Arasu Cable TV Corporation (TACTV) intends to invite proposals from reputed companies for providing High-Definition Digital Cable TV Set Top Boxes along with the related Conditional Access System (CAS) through a franchisee model. The proposal should include the monthly charges payable to the Franchisee.

1	Tender Inviting Authority	Managing Director Tamil Nadu Arasu Cable TV Corporation Ltd No:807, Anna Salai, 4 <sup>th</sup> Floor, P.T.Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002. Ph:044-28432911, Fax: 044-28432913 Email: <a href="mailto:tactv@tactv.in">tactv@tactv.in</a> . Website: <a href="http://tactv@tactv.in">tactv@tactv.in</a>
2	Name of the work	Supply of High Definition Set Top Boxes and Digital services for TACTV with Conditional Access System (CAS) on Franchisee Model
3	Tender document, available place, cost and due date for obtaining tender	Tender documents can be purchased on all working days from 21.01.23 to 30.01.23 between 11AM to 3.00 P.M. from the address mentioned in Sl.No:1 above on payment of Rs.1000/- by way of a Demand Draft drawn on any Indian Nationalised/Scheduled Commercial Bank in favour of “Tamil Nadu Arasu Cable TV Corporation Ltd” payable at Chennai. Alternatively, the tender documents can be downloaded at Free of Cost from TACTV’s website <a href="http://www.tactv.in">www.tactv.in</a> and <a href="http://www.tenders.tn.gov.in">www.tenders.tn.gov.in</a> .
4	Earnest Money Deposit (EMD)	Rs.10 lakhs in the form of a Demand Draft drawn on any Indian Nationalised/Scheduled Commercial Bank in favour of “Tamil Nadu Arasu Cable TV Corporation Ltd” payable at Chennai.
5	Date, Time and place of Pre-Bid meeting:	25.01.2023 at 3.30 PM at the address mentioned in Sl.No:1 above.
6	Due Date, Time and place of submission of Tender	30.01.2023 at 3.00 P.M. at the address mentioned in Sl.No:1 above.
7	Date, Time and Place of Tender opening	30.01.2023 at 3.30 P.M. at the address mentioned in Sl.No:1 above.

**Managing Director**

## **2.PREAMBLE**

Tamil Nadu Arasu Cable TV Corporation Ltd is a Government of Tamil Nadu undertaking, incorporated under the Companies Act, 1956 with an aim to provide high quality cable signals to the public through Local Cable Operators at an affordable cost. The service provided by the TACTV Corporation is welfare step taken by the Government in the interest of the public and Cable TV operators. TACTV Corporation is operating in Tamil Nadu with a digital subscriber base of around 2.2 million. TACTV has deployed both Standard Definition (SD) and High Definition (HD) Set Top boxes in the field and providing 300 SD and 56 HD channels and about 400 local channels. It is expected to grow to more than 600+ channels shortly.

Tamil Nadu Arasu Cable TV Corporation (TACTV) intends to invite proposals from reputed companies for providing High-Definition Digital Cable TV Set Top Boxes along with the related Conditional Access System (CAS) to TACTV through a franchisee model. The proposal should bid the monthly charges payable to the Franchisee over a period of 36 months.

## **3.SCOPE OF WORK**

- (a) TACTV intends to supply HD STB (hereinafter referred to as STBs) to its subscribers through a franchisee model. The successful bidder will have to supply 5,00,000 TACTV- labelled HD STB. The scope of supply for set top boxes shall include Conditional Access System (CAS) (The detailed specifications for set top boxes and CAS server is given in the Annexure-I (A)). The list of already existing CAS that are working at TACTV is placed at Annexure-I (B). The successful bidder should ensure integration of STBs with the Head end equipment of TACTV.
- (b) The STBs, associated servers and its accessories including remote control should have a replacement warranty for a period of *three* years from the date of supply of STBs at warehouse and acceptance by TACTV. During the 3 year warranty period, the bidder should also provide maintenance support for any other items supplied under the contract free of cost. The supplier should have physical arrangements/presence in every taluk for extending service support.
- (c) The STBs are to be delivered at warehouses designated by TACTV at Chennai, Madurai, Coimbatore and Trichy and tracked as assigned to individual customer by entering SI No. of each STB through software application.
- (d) TACTV will pay the sum as in the price bid per month for each activated STB for a period of 36 months. The payment will begin upon certification from the LCO of the activation of the subscriber in the portal.
- (e) The selected bidder will have to provide the STBs along with the required Conditional Access System (CAS) and integrate the same with the existing SMS at TACTV headend. The bidder can also use the existing CAS of TACTV installed at head end; in which case it should ensure proper integration along with installation of perpetual license if any. If it provides any other CAS then supplier should supply the required CAS system with all required licensing/upgrade of the set top boxes for the period of 3 years. The Licensing should be perpetual for CAS and STB. The successful bidder will also have to ensure that the OEMs of the CAS systems contractually supply the CAS system directly to TACTV and not to the successful bidder.
- (f) After three years, AMC will be paid to the OEM by TACTV if necessary, for any software upgrades only and not for any licensing. After the completion of 3 year period, the bidder should ensure that CAS/STBs including perpetual licensing are handed over to TACTV or any new vendor assigned by TACTV for maintenance.

- (g) The bidder is required to install the required servers for Conditional Access System (CAS) at the head end of TACTV at Chennai if he does not choose to use the headend CAS already at headend, and same should be integrated with the existing TACTV's multiplexers (Ericsson make). The CAS system should be chosen from the list of CAS providers provided at Annexure – I(B).
- (h) Access to all systems including CAS software, audits logs, servers, SMS applications and any other server which are interconnected system of the bidder shall be available directly to TACTV or its nominee at all times (24 x 7). Further, no direct VPN access shall be permissible to CAS/SMS/Other system installed by the bidder for any reason. However whenever such access is essential, the same will be extended only through an intermediary access control system to ensure audit trail of all actions of the bidder, after written explicit approval of TACTV.
- (i) In case there is need for change/transit of vendor from the bidder to another vendor for any reason, the bidder shall be responsible to provide all such information /password/data/code/assistance there may be required for this purpose of TACTV and new vendor.

#### 4. QUALIFICATION CRITERIA:

Clause	Qualification Criteria	Supporting Documents/Remarks
4(a)	i. The single bidder should be a registered company in India and should be in the business of supply or manufacturer of set top boxes for the past three years as on 31.12.2022.	<ul style="list-style-type: none"> <li>• Copy of Incorporation Certificate issued by the Registrar of Companies</li> <li>• Copy of Memorandum and Articles of Association</li> </ul>
	ii. In case of Consortium of Bidders: a) Consortium of Bids are allowed with maximum of Two partner  b) One of the partners shall be designated as Prime Bidder and such partner should be in existence for the past three years as on 31.12.2022. and shall also be Registered in India.  c) Each partner of the Consortium should be a Registered Company in India and should be in existence for the past three years as on 31.12.2022  d) No partner of the consortium should bid individually or be a partner of another Consortium	<ul style="list-style-type: none"> <li>• The Consortium partners individually should submit the Certificate of Incorporation from the appropriate Authority.</li> <li>• If the Certificate of Incorporation is not in English, then notarized English translation should be submitted.</li> <li>• The original Consortium Agreement should be submitted. The Consortium Agreement shall contain statement that all partners of the consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms.</li> </ul>

Clause	Qualification Criteria	Supporting Documents/Remarks
4(b)	The single bidder/ at least anyone of the consortium partner should have minimum 3 years of experience (as on 31.12.22) in the manufacture or supply of Set Top Boxes.	<ul style="list-style-type: none"> <li>• For Indian operations -Copy of Tax Registration/Factory Licence/GST registration.</li> <li>• In case of foreign manufacturers experience – Official documentation including Tax returns for Set Top box manufacturing business from Tax authorities/Statutory Authorities of the Country of incorporation.</li> </ul>
4(c)	<p>i. The Prime bidder should have reported an Average Annual Turnover of at least Rs.10 Crores in the last three consecutive financial years 2019-20, 2020-21 &amp; 2021-22.</p> <p>ii. In case of Consortium of Bidders:</p> <p>a) The prime bidder should have reported an average Annual Turnover of at least of Rs.10 Crores i.e. in the last three consecutive financial years 2019-20, 2020-21 &amp; 2021-22</p> <p>b) Consortium partner should have reported an average Annual Turnover of at least Rs.5 Crores in the last three consecutive financial years 2019-20, 2020-21 &amp; 2021-22</p>	<p>(i)The average annual turnover statement duly certified by Chartered Accountant as per Annexure VII.</p> <p>(ii)The Annual Report/ certified copies of Balance Sheet, Profit &amp; Loss statement for the last 3 consecutive financial years</p>
4(d)	The single bidder/ anyone of the consortium partner should have successfully completed supply or manufacture of at least 3 Lakh units of set top boxes in any one of the last three financial years i.e.2019-20, 2020-21 & 2021-22, of which at least 1 Lakh units should have been supplied and seeded in India.	Purchase Orders / Invoice or Completion certificates from the clients. Or evidence for manufacturing.
4(e)	The single bidder/ anyone of the consortium partner should have a full-fledged permanent office in Chennai to provide after sales services.	Chennai Office Address (or) the bidder should give an undertaking to setup office at Chennai within 15 days from the date of issue of LoA if selected
4(f)	The single bidder/anyone of the consortium partner should have full-fledged service centres in Tamil Nadu to provide after sales services.	The list of service centres in Tamil Nadu as per Annexure - XIII should be enclosed (or) the bidder should give an undertaking to setup service centres in Tamil Nadu within 30 days from the date of issue of LoA if selected.

4(g)	The single bidder/consortium partners should have firm tie-up with a leading and reputed CAS providers who are in operation in India for at least 3 years as on 31, March 2022. The CAS provider should have a minimum of 5 Lakhs active installations each in 3 leading Indian Digital Cable Systems/DTH operators.	Tie-up letter, Purchase/work orders/ completion certificate and Certificate from MSO/DTH Operator
4(h)	<p>The bidder should not stand declared ineligible/ blacklisted/ banned/ debarred by any government Procuring Organization or its Ministry/ Department from participation in its Tender Processes; and/ or Not be convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government in India from participation in Tender Processes of all of its entities, for:</p> <ol style="list-style-type: none"> <li>1. offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or</li> <li>2. offences under the Indian Penal Code or any other law for causing any loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.</li> </ol>	<p>(i)The declaration form as per Annexure - VIII should be enclosed. In case of consortium, each partner should submit a separate declaration form.</p> <p>(ii) Any adverse / not satisfactory remarks on the performance of previous supplies will entail disqualification</p> <p>(iii)Further, if the bidder is found blacklisted in India before award of contract by any Government agency, the bid will be rejected.</p>
4(i)	Any Bidder or its consortium partner from a country which shares all and border with India will be eligible to bid in this tender only if the Bidder is registered with the Competent Authority as specified in G.O.Ms.No:343 dated 18.9.2020 issued by Finance(Salaries) Department, Government of Tamil Nadu.(As per details in Annexure-XVIII).	<p>Registration Certificate issued by the Government of Tamil Nadu as specified in G.O.Ms.No:343 dated 18.9.2020 issued by Finance(Salaries) Department, Government of Tamil Nadu.</p> <p>In case of Bidders not from such countries, the Model Certificate for tender as specified in the G.O. should be submitted.</p>

4(j)	<p>The bidder should not have an association (as a bidder/ partner/ director/ employee in any capacity) of any retired Manager (of Gazetted Rank) or any retired Gazetted Officer of the Central or State Government or its Public Sector Undertakings if such a retired person has not completed the cooling-off period of one year after his retirement. However, this shall not apply if such managers/ officers have obtained a waiver of the cooling-off period from their erstwhile organization or the near relations of executives of Procuring Entity involved in this Tender Process.</p>	Declaration to be enclosed
4(k)	<ol style="list-style-type: none"> <li>1. The bidder should ensure that all the statutory conditions laid down by the TRAI are met at all times.</li> <li>2. The bidder should ensure that any mandatory testing, certification, and audit has to be conducted in every year</li> </ol>	Declaration/ undertaking has to be enclosed
4(l)	<p>The CAS server (duplicated each) along with perpetual licensing should be supplied along with the set top boxes. After three years AMC, if required for any software upgrades will be made with OEM, at the discretion of TACTV after mutual discussions.</p>	Declaration /Undertaking to be submitted

## **5.LANGUAGE OF THE TENDER:**

The Tender prepared by the bidder as well as all correspondences and documents relating to the Tender shall be in English language only. If the supporting documents are in a language other than English/Tamil, the notarized translated English version of the documents should also be enclosed. **Tender received without such translation copy will be rejected.**

## **6.CONSORTIUM AGREEMENT:**

- a) A legally valid agreement shall be executed for the consortium binding all the partners in INR 100 Non-Judicial stamp paper. All partners of the consortium shall be liable jointly and severally responsible for the execution of the contract in accordance to the contract terms and it should be explicitly stated in the consortium agreement. The consortium agreement should indicate precisely the role of each partner of the consortium in respect of the contract.
- b) Consortium agreement should be registered in Chennai so as to be legally valid and binding on all partners.
- c) Consortium agreement shall be enclosed with the technical bid. Alternatively, a letter of intent to execute a consortium agreement in the event of a successful bid shall be signed by all the partners and submitted with the bid together with the copy of the proposed agreement. In case of a LoA, the actual reported consortium agreement will have to be provided before issue of work order.
- d) The consortium agreement shall authorize one of the partners of the consortium as Prime Bidder. This authorization shall be evidenced by submitting of Power of Attorney signed by the legally authorized signatories of all the partners.
- e) The Prime Bidder of Consortium shall be authorized to incur liabilities and receive instruction for and on behalf of him and all partners of the consortium and entire execution of the contract including payment shall be done exclusively with the Prime Bidder. All correspondence will only be made with the Prime Bidder.
- f) The consortium partners shall be jointly and severally responsible for action of either parties in the consortium.

## **7. PURCHASE OF TENDER DOCUMENT**

- a) The tender document shall be obtained from Tamil Nadu Arasu Cable TV Corporation Limited (TACTV), 807, Anna Salai, 4<sup>th</sup> Floor, P.T. Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002 on payment of Rs.1000/- payable in the form of Demand Draft drawn on any Indian Nationalized/ Scheduled Commercial Bank in favour of “Tamil Nadu Arasu Cable TV Corporation Ltd” payable at Chennai or it can be downloaded from **www.tactv.in** and **www.tenders.tn.gov.in** at free of cost. For the downloaded tender document, the bidder need not enclose the tender document cost but should give a declaration for not having tampered the Tender document downloaded (as per Annexure VI).
- b) The tender document can be purchased on all working days from 21.01.2023 to 30.01.2023 between 11.00 AM and 03.00 PM.

## **8. PRE BID MEETING:**

There will be a pre-bid meeting on 25.01.2023 at 3.30 P.M. in the Head Office of TACTV, 807, Anna Salai, 4<sup>th</sup> Floor, P.T. Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002 during which the prospective bidders can get clarifications about the tender. The bidders shall send their queries in writing if any so as to reach TACTV at least two days prior to the pre-bid meeting date. The bidders are advised to check **www.tactv.in** and **www.tenders.tn.gov.in** for up-to-date information like change in date / venue etc., of pre-bid meeting as TACTV may not be able to identify and communicate with the prospective bidders at this stage. Non attending of pre-bid meeting is not a disqualification.

## **9. CLARIFICATION OF TENDER DOCUMENT:**

Any discrepancies, omissions, ambiguities or conflicts in the tender document or any doubts as to their meaning and any request for clarification may be sent in writing to “The Managing Director, Tamil Nadu Arasu Cable TV Corporation Limited (TACTV), 807, Anna Salai, 4<sup>th</sup> Floor, P.T. Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002 or through e-mail to **tactv@tactv.in**. The Managing Director, will review the same and where information sought is not clearly indicated or specified in the tender documents, will issue a clarifying bulletin to all those who have purchased the tender documents and will also upload such clarification on **www.tactv.in** and **www.tenders.tn.gov.in**. The Managing Director will neither make nor be responsible for any oral instructions. Request for clarification should be brought to the notice of the Managing Director, in writing, before 48 hours of the opening of the tender.

## **10. AMENDMENT OF TENDER DOCUMENT**

TACTV whether on its own initiative or as a result of a query, suggestion or comment of an Applicant or a Respondent, may modify the tender document by issuing an addendum or a corrigendum at any time before the opening of the tender. Any such addendum or corrigendum will be communicated through mail to all the bidders who had purchased the tender documents and also will be uploaded on **www.tactv.in** and **www.tenders.tn.gov.in** and the same will be binding on all Applicants or Respondents or Bidders, as the case may be.

## **11. AUTHORISATION OF THE BIDDER**

The Tender should be signed by the person who is authorized for the same by the Single Applicant/ Prime Bidder of the Consortium.

## **12. Submission of Cover in Two Bid System:**

- (a) Every page of the terms and conditions of the tender document should be signed and enclosed with the tender, in token of having accepted the tender conditions, failing which the tender will be rejected summarily.
- (b) Tenders should be submitted in two parts:
  - i. Part I will cover technical bid and
  - ii. Part II will cover price bid

- (c) Bidders should ensure submission of all documents along with Part-I and Part II proposal as per the Check list given in Annexure -XII
- (d) Bidders are requested to submit Part I and Part II in a separate sealed cover superscripting as Part I and Part II respectively. These two Parts namely Part I and Part II must be placed in a separate sealed cover superscripted as “Tender to provide Set Top Boxes along with CAS to TACTV on Franchisee Model” and addressed to “The Managing Director, Tamil Nadu Arasu Cable TV Corporation Limited (TACTV), 807, Anna Salai, 4<sup>th</sup> Floor, P.T.Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002., containing the name and address of the Bidder. **Tenders submitted with unsealed cover would summarily be rejected.** TACTV shall not be responsible for any accidental opening of covers that are not properly superscripted and sealed as required hereunder before the time appointed for tender opening.
- (e) Tenders should be dropped only in the tender box kept at “Tamil Nadu Arasu Cable TV Corporation Limited (TACTV), 807, Anna Salai, 4<sup>th</sup> Floor, P.T.Lee. Chengalvaraya Naicker Trust Building, Chennai 600 002 on or before 3.00 PM on 30.01.2023”. Tenders will not be received by hand.
- (f) Alternatively, the tenders can be submitted through registered post so as to reach the above address on or before 3.00 PM on 30.01.2023. Tenders received after the specified time will not be considered and TACTV will not be liable or responsible for any postal delays.
- (g) A tender once submitted shall not be permitted to be altered or amended.
- (h) A soft copy of the technical bid in the form of CD should also be submitted along with Part-I of the tender document.

### **13. EMD amount**

- (a) The EMD amount Rs.10,00,000/- (Rupees Ten lakhs only) has to submitted by way of Demand Draft drawn on any scheduled commercial bank in favour of “Tamil Nadu Arasu Cable TV Corporation Limited, payable at Chennai or in the form of an Irrevocable Bank Guarantee with a validity period of 6 months from the date of publication of tender (i.e.) 21.01.2023 or later date, from any Indian Nationalized/Scheduled Commercial Bank.
- (b) The EMD in any other form will not be accepted. The Earnest Money Deposit will be returned to the unsuccessful bidders.
- (c) The Earnest Money Deposit will be retained in the case of successful bidder and will be adjusted against security deposit. The successful bidder shall take appropriate steps to enhance the tenure of the EMD to meet the conditions of the Security Deposit. Further, it will not earn any interest and will be dealt with, as provided in terms and conditions of the tender.
- (d) Any tender submitted without the EMD in the manner required/stipulated hereunder and any request of the bidder under any circumstances claiming exemption from payment of EMD shall be rejected and their Part II Quantity bid offer will not be opened. Provided however the aforesaid shall not apply to any category of tenderers specifically exempted by Government from the payment of EMD as per Section 14 of Tamil Nadu Transparency in Tenders Act 1998.

- (e) EMD is liable to be forfeited in case the bidder fails to execute the contract after submission of the tender or after acceptance of the offer by TACTV or fail to sign the Agreement or to remit the Security Deposit in accordance with the terms hereof.

#### **14.VALIDITY:**

The rate quoted in the Tender should be valid for the acceptance by TACTV for a minimum period of 90 days from the date of opening of the Tender. Escalation in the rates will not be entertained under any circumstances, except under conditions of statutory Indian taxes/duties which can be considered by TACTV based on specific request of bidder.

#### **15. Opening and Evaluation of Tenders:**

- (a)The tenders received up to 3.00 PM as per the office clock on 30.01.2023 or such other date as specified by TACTV in terms of this tender and applicable law will be taken up for opening. Tenders received after specified date and time will not be accepted. The Tender (Part 1) will be opened by the Managing Director of Tamil Nadu Arasu Cable TV Corporation Limited or by the Person/Committee authorized by him or members of the Tender Scrutiny Committee at 03.30 PM on the same day in the presence of the available Bidders/ representatives of the Bidders who choose to be present. The Bidders or their authorized agents are allowed to be present at the time of opening of the tenders. The names of the tenderers and their quoted prices shall be read out aloud.
- (b)The Managing Director of Tamil Nadu Arasu Cable TV Corporation Limited or Person/Committee authorized by him or the members of the Tender Scrutiny Committee will inform the attested and unattested corrections, before the Bidders. The Managing Director of TACTV or Person/Committee authorized by him, and the members of the Tender Scrutiny Committee shall sign all such corrections in the presence of the Bidders. If any of the Bidders or agents are not present then, in such cases the Managing Director of TACTV or Person/Committee authorized by him and the members of the Tender Scrutiny Committee will open the bid of the absentee Bidder and take out the unattested corrections and communicate it to them. The absentee Bidder should accept the corrections without any question whatsoever. A record of such corrections shall be maintained. The Managing Director of Tamil Nadu Arasu Cable TV Corporation Limited or Person/Committee authorized by him shall have the power to examine the documents submitted by the Bidders, including whether the EMD and other documents have been submitted.
- (c)If the date fixed for opening of the tender (part 1) happens to be a government holiday, the sealed tenders will be received up to 3.00 PM on the next working day and opened at 03.30 PM on the same day.
- (d)The Technical bid will be evaluated by the Tender Scrutiny Committee constituted by TACTV in terms of the qualification criteria. The Tender Scrutiny Committee so appointed shall be authorized to scrutinize the tender documents, supervise opening of tenders, to carry out the preliminary examination and detailed evaluation of the tenders received and to prepare an evaluation report for the consideration of the Tender Accepting Authority and shall undertake actions as prescribed for it in accordance with the TNTIT Act and TNTIT Rules. The Tender Inviting Authority may cause the

examination of substantive responsiveness of the bids through the Tender Scrutiny Committee. The Tender Accepting Authority based on the report of the Tender Scrutiny Committee reserves the right to disqualify any bid/tender submitted by the bidder in case the Tender Scrutiny Committee is not satisfied with the documents furnished, including the past performances, or that the tenders are not substantially responsive to the tender conditions.

- (e) Any adverse/not satisfactory remarks on the performance from the clients of previous supplies will entail disqualification of the tenderer and their offer bids will not be opened.
- (f) The bidders declared as qualified in the Technical Bid by the Tender Scrutiny Committee, will be informed of the date of opening of Part II (Price bid).

#### **16. Price Offer:**

- (a) The Price bid should be kept only in the Part II cover.
- (b) The price bid should be prepared as per Annexure-XI
- (c) The taxes should be quoted separately as per the price bid format.
- (d) The rate finalized for the award of contract shall be kept firm during the period of contract.
- (e) The price should be neatly and legibly written both in figures and words.
- (f) In case of discrepancy between the prices quoted in words and figures lower of the two shall be considered.
- (g) Part-II bid should not contain any commercial conditions. Variation in the commercial terms and conditions of the tender will not be accepted.

#### **17. Evaluation of Price:**

The bid (Part II – Price Bid) shall be opened in the same manner as the technical bid, on the date as specified per paragraph 16(f), above, and provisions of the Para 16 shall mutatis mutandis apply to such modified time and day, including signatures by TACTV's Managing Director and/or persons/committee appointed by him and/or the Tender Scrutiny Committee. The Price bid (Part II) will be evaluated in accordance to the Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000, including as given below:

- (a) The L1 price will be declared and the same would be done as given below:
  - i. **For HD Set top box:**  
(Price of HD set top box per unit + perpetual Licence fee for CAS per unit including server cost) per month for 36 months. (As per Annexure-XI)
- (b) The bid will be evaluated based on the lowest monthly quoted cost of set top boxes and in accordance to the Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000.

- (c) TACTV reserves the right to distribute the order across all suppliers who have bid in the tender.
- (d) TACTV (including through the Tender Inviting Authority and/or the Tender Accepting Authority) reserves the right to seek bonafide clarification from tenderers relating to the tenders submitted by them during the evaluation of tenders.
- (e) As per Clause 14(9) of Tamil Nadu Transparency in Tender Rules 2000, TACTV reserves the right to increase or decrease the order quantity up to 25% on same terms and conditions
- (f) TACTV reserves all rights available to it for evaluating and selecting a bid as are available to it under Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000.
- (g)
  - (i) Notwithstanding anything to the contrary contained in this document, but without prejudice to rights of TACTV.
  - (ii) TACTV reserves all rights available to it for evaluating and selecting a bid as are available to it under Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000.

## **18.BIDDING**

(a)TACTV expects a holistic solution from the bidder through the Tender for this project.

(b)The financial quote should include:

- i. Supply as per schedule and maintenance of HD set top boxes to the TACTV for a period of 3 years.
- ii. TACTV will pay the bid amount per month for each activated STB for a period of 36 months to the bidder. The payment will begin upon certification from the LCO of the activation of the subscriber in the portal.
- iii. The selected bidders have to provide the STBs along with the required Conditional Access System (CAS) and integrate the same with the existing SMS. The supplier should supply the required CAS system with all required licensing of the set top boxes. Licensing should be perpetual for CAS and STB. The successful bidder will also have to ensure that the OEMs of the CAS systems contractually supply the CAS system directly to TACTV and not to the successful bidder. The equipment (STBs/servers/accessories) shall be warranted for 3 years include maintenance and supply for servers/ STBs..
- iv. Bidder shall undertake repairing /replacement of Faulty Set top boxes from the TACTV Local Cable Operators for a period of 3 years from supply (2% reserve)
- v. Deployment of necessary Servers for the Conditional Access System which will be fully the property of TACTV after supply along with the necessary perpetual licences.
- vi. Conditional Access System shall be on perpetual license for the servers and the supplied STBs.
- vii. The quoted HD Set Top Boxes, Conditional Access System must meet all the requirements specified in the Regulations stipulated by Telecom Regulatory Authority

of India at present and should be capable upgradable to future Regulations stipulated by Telecom Regulatory Authority of India.

- viii. The Set Top Boxes, Conditional Access System must pass the DAS audit as per the Telecom Regulatory Authority of India audit manual.
- ix. The bidder should place at least one Engineer at TACTV head end.
- x. The bidder should quote the rate for the monthly charge for 36 month period required from TACTV for each STB supplied. The bid should include cost of licensing of Conditional Access System including software upgrades for 3 years and perpetual license (without any upgrades after 3 years) thereafter if bidder intends to provide a new CAS not already available at headend.

Upon finalization of rates as above, TACTV will issue the Letter of Acceptance to the successful bidder, whose offer is the lowest.

The bidder should also give a quote for maintenance of headend hardware (servers) on an optional basis for the 4<sup>th</sup> and 5<sup>th</sup> year and also quote for Annual hardware maintenance warranty for each STB box after three years for a further period of 2 years on an optional basis.

## **19.AWARD OF THE CONTRACT**

- (a) The Tender Accepting Authority basis the detailed report of the Tender Selection and Evaluation Committee, including identifying the highest bid (Part II – Price Bid) in terms of the STBs and economical effectiveness for TACTV, submitted to it shall identify the bidder and arrive at a final decision.
- (b) L1 bidder of HD set top boxes (along with CAS and Servers), will be invited for price negotiations.
- (c) Upon finalization of negotiated rate, TACTV will issue the Letter of Acceptance (LoA) to the successful bidder.
- (d) However, TACTV reserves the right to award or distribute the contract to Other Technically Qualified Bidders who are matching the negotiated quantity of H1 bidder, in different areas, in accordance with Rule 31(4) of the Tamil Nadu Transparency in Tenders Rules, 2000 read with Tamil Nadu Transparency in Tenders Act, 1998.
- (e) Initial contract period will be three years. The contract can be extended for 4<sup>th</sup>/5<sup>th</sup> year upon mutual agreement of terms and condition and at the discretion of TACTV for maintenance of headend hardware and annual hardware maintenance warranty for STB box based on optional price discovered.

## **20. SECURITY DEPOSIT**

- (a) On receipt of the Letter of Acceptance from the TACTV, the successful HD STB provider should remit a Security Deposit (SD) of Rs. 60,00,000 (Rupees Sixty Lakhs only) by way of Demand Draft drawn on any scheduled commercial bank in favour of “Tamil Nadu Arasu

Cable TV Corporation Limited (or) in the form of an Irrevocable Bank Guarantee with a validity period of 36 months from any Indian Nationalized/Scheduled Commercial Bank, within 7 (Seven) working days from the date of receipt of Letter of Acceptance. Failure to do the same will result in disqualification of the successful bidder.

- (b) Security Deposit will be returned only after the expiry of the contract period.
- (c) In case of non fulfilment of contract, Security Deposit will be forfeited.

## **21. AGREEMENT**

The successful bidder should execute an agreement as may be drawn up to suit the conditions on a non-judicial stamp paper of value, as prescribed in law on the date of remittance of Security Deposit and shall pay for all stamps and legal expenses incidental thereto. In the event of failure to execute the agreement, within the time prescribed, the SD amount remitted by the successful bidder will be forfeited besides cancelling the bid and TACTV reserves the right to award the same to another successful bidder.

## **22.ISSUE OF PURCHASE ORDER:**

After execution of the agreement, Purchase order will be released to the items as and when it is required by the TACTV. The bidder should supply ordered STBs per the schedule given in clause 23. The headend equipment (CAS servers and accessories) shall be installed within two weeks of issue of P.O. Its shall be integrated with a single SMS.

## **23.SUPPLY SCHEDULE:**

The successful Bidder should supply the ordered quantity of Set Top Boxes 50% of quantity in 45 days of P.O and balance 50% in 90 days of P.O

## **24.WARRANTY:**

- (a) All items (STB, CAS servers, and other accessories) should have a replacement warranty for a period of *THREE* year from the date of installation of STBs at customer premises against manufacturing defects. During the warranty period, the bidder should also provide maintenance support for all items covered under the contract free of cost. Further, option should be given for extended warranty for 4nd / 5th year which may be extended to LCOs by TACTV.
- (b) However, the warranty will not extend to failures due to non-manufacturing defects such as water-logging, tampering by unauthorized person, failure due to high voltage or lightning, provided the same is proved beyond doubt.
- (c) The successful bidder shall supply 2% additional quantity of the STBs, CASs, servers and other accessories as reserve for replacement, which will be kept at the designated warehouses of TACTV.
- (d) The successful bidder should maintain toll free numbers @ one line for every 5 lakh Set Top Box supplied operating 24x7 to register service complaints.
- (e) The call centre shall be located in Chennai and handle complaints in both Tamil & English.

## **25.PAYMENT TERMS**

The monthly payment for successful Set Top Box vendor will be paid by TACTV on activation of supplied STBs.

## **26.PENALTY**

(a) Failure to comply with the stipulated schedule of supply will attract a penalty of 0.5% per week, on the unfulfilled portion of the contract up to a maximum of 5%. Delays beyond that period will result in cancellation of the orders.

(b) The complaint raised by TACTV/LCO/subscribers has to be rectified as follows:

- i. LCOs will handle, if the fault is due to software installation and upgradation, troubleshooting like signal connection not proper, power adaptor not working, AV cable faulty.
- ii. For other faults, Set top boxes will be brought to the service centres of the bidder by LCOs. It has to be resolved within 24 hours by the supplier. If it is not possible to resolve within 24 hours the subscriber will be given spare set top boxes from the 2% reserve available with LCOs.
- iii. The supplier has to rectify the faults within 96 hours from the time of receipt of the box from the LCO and in default provide a new STB at his own cost.
- iv. Any failure to comply with the above time lines will attract a penalty of Rs.25 per set top box per day.

## **26A. LIQUIDATED DAMAGES**

26A.1. Notwithstanding anything to the contrary and without prejudice to the other rights and remedies available to TACTV including the right of termination of TACTV in case of breach of any obligations contained hereunder, if the successful bidder fails to supply of the STB as per the stipulated schedule or breaches any of its obligations hereunder, TACTV shall have the right of (a) deducting from the consideration payable by it for the supply of the aforesaid services.

26A.2. The parties agree that TACTV may at its sole and absolute discretion determine the quantum of liquidated damages, per above, which determination shall be final and binding on the successful bidder. TACTV may, without prejudice to its right to effect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the successful bidder in its hand in relation to this tender or any other contract between the parties (which includes TACTV's right to claim such amount against invoices raised by the successful bidder or EMD or the Security Deposit submitted by the successful bidder under this tender or any other contract) or which may become due to the successful bidder. Any such recovery of liquidated damages shall not in any way relieve the successful bidder from any of its obligations to complete the scope of work or from any other obligation and liabilities under this tender. The successful bidder shall have no rights or claims (including the right to challenge the determination or the realization of the liquidated damages) in this regard.

26A.3. The liquidated damages payable hereunder is not a penalty but is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by TACTV on account of delay/breach on the part of the successful bidder. The dates of delivery of the STBs as stipulated in the tender should be deemed to be the essence of the contract and delivery must be completed not later than the dates specified herein. Any extensions granted by TACTV for any

delays shall be subject to such additional terms as stipulated by TACTV, at its sole and absolute discretion.

26A.4. No increases in price on account of any statutory increase in or fresh imposition of GST, or on account of any other taxes/ duty/ cess/ levy) leviable in respect of the work/services and incidental goods/ works which takes place after the original delivery date shall be admissible on such of the said work/services, including the quantity of STBs to be supplied as per bid as are delivered after the said original date.

## **27.TERMINATION OF THE TENDER**

TACTV reserves right to terminate the Tender at any time during the validity period on account of non-fulfillment of contract on any count.

## **28.GENERAL CONDITIONS**

- (a) Conditions in any form will not be accepted.
- (b) Any notice regarding any problems, shall deemed to be sufficiently served, if given in writing at usual or last known place of business.
- (c) TACTV reserves the right to relax or waive or amend any of the conditions.
- (d) The right of final acceptance of the tender is entirely vested with the TACTV and TACTV reserves the right to accept or reject any or all the bidder in part or in totality or to negotiate with any or all the bidders or to withdraw/ cancel/ modify this tender without assigning any reason whatsoever.
- (e) There is no obligation on the part of TACTV to communicate with who are not awarded.
- (f) After acceptance of the contract by TACTV, the bidder will have no right to withdraw his contract.
- (g) The bidder shall NOT operate in another name unless a valid “name change certificate” is obtained from TACTV.
- (h) Any notice regarding any problems, to the bidder shall deemed to be sufficiently served, if given in writing at his usual or last known place of business through official e-mail id lastly disclosed to TACTV.
- (i) Any takeover/ change of management during the currency of contract should be intimated to TACTV within 15 days.
- (j) In the course of discussion and instruction, TACTV may disclose information of confidential and proprietary nature (whether identified explicitly as confidential or proprietary or otherwise) relating to its business model, subscribers, etc. to the bidder. All such information shall be considered as confidential.

## **29.ASSIGNMENT**

(i)The bidder awarded shall not directly or indirectly transfer, assign the contract or any part, share or interest therein nor shall take a new partner without written consent of TACTV provided nevertheless any such consent shall not relieve the channel from any obligation, duty or responsibility under the contract.

(ii) TACTV reserves the right to accept or reject any or all the bids in part or in totality or to negotiate with any or all the bidders or to withdraw/ cancel/ modify this Tender without assigning any reason whatsoever.

### **30.ARBITRATION**

- (a) In case of any dispute rising or pursuant to the bid submitted pursuant to this bid, including interpretation if any on the clauses of the bid or the agreement to be executed, either party shall immediately issue a written notice to the other party of the existence of the dispute providing the details of the dispute and such dispute shall be resolved by the parties mutually through their authorised representatives by acting in good faith.
- (a) In the event of failure of such authorised personnel to resolve the dispute within a period of 30 days from the date of the aforesaid notice, the matter shall be referred by TACTV/bidder to a panel of three arbitrators, with TACTV and bidder nominating one arbitrator each and the two arbitrators appointing a third arbitrator, who shall act as the chairperson of the arbitration panel. All the aforesaid arbitrators shall be selected from the panel of arbitrators approved by TACTV. In the event of failure of Bidder to appoint an arbitrator within a period of 15 days from, then such appointment shall be made in accordance with the provisions of the Arbitration and Conciliation Act, 1996.
- (b) The remuneration for the arbitrator and other expenses shall be borne equally by TACTV and the bidder. The arbitration to be conducted in terms hereof and the appointment of arbitrators shall be governed by the Arbitration and Conciliation Act, 1996.
- (c) The venue of the Arbitration shall be at the Head office of the TACTV, Chennai and the proceedings will be in English. The decision of the Arbitrator shall be final and binding on both the parties to the Arbitration.
- (d) The Arbitrator may with the mutual consent of the parties, extend the time for making the award. The award to be passed by the Arbitrator is enforceable in the Court at Chennai city only.

### **31.JURISDICTION OF THE COURT**

Any dispute arising out of non-fulfillment of any of the terms and conditions of this Tender /Agreement will be subject to the Chennai jurisdiction only. We agree to the above terms and conditions.

**AUTHORIZED SIGNATURE OF THE Bidder:**

## Technical Specifications:

### ANNEXURE-I (A)

#### Supply of Conditional Access System, Middleware and distribution of BIS approved Set Top Boxes:

##### Addressable Systems Requirements

###### I. Conditional Access System (CAS):

1. The current version of the CAS, in use, should not have any history of hacking.  
**Explanation:** A written declaration available with the distributor from the CAS vendor, in this regard, shall be construed as compliance of this requirement.
2. The CAS should be DVB compliant with middleware platform and providing the encryption to the value added service.
3. The CAS system should have an uncompromised security features. Bidders must indicate the CAS version and should indicate if there was any security compromise in the last 5 years.
4. The system shall have standards based APIs to transfer purchase information to logistical and billing systems.
5. The CA System shall include an encryption mechanism suitable for DVB-CSA Encryption
6. The CA system shall be capable of encrypting **clear** content provided by various broadcasters to ensure security of content.
7. The CA System shall be capable of providing the above mentioned support for broadcast TV and Video on demand.
8. The offered system shall be the one that has been approved by major content aggregators and major broadcast channels.
9. The system shall have support graphical interface for creating new service offerings.
10. The system shall have a mechanism to test a new service offering before publishing the same.
11. The CA system should generate ECM using the control word supplied by the scrambling control system. The ECM's delivery should support DVB Simulcrypt specifications.
12. The CA System should be capable of delivering authentication EMM and auto refreshing EMMs to the STBs.
13. CAS bidder must also be able to provide solution on VOD, EPG and Middleware.
14. The CA System should have the capability to support at least 1000 bouquets/packages.
15. The software download capability is needed to support STB upgrade, downgrade targeting single and group STB's.

16. It shall not be possible to alter the data and logs recorded in the CAS and the SMS.
17. The CAS, in use, should not have facility to activate and deactivate a Set Top Box (STB) directly from the CAS terminal. All activation and deactivation of STBs shall be done with the commands of the SMS.
18. The CAS should be integrated in such a manner that activation and deactivation of STB happen simultaneously in both the systems.  
**Explanation:** Necessary and sufficient methods shall be put in place so that each activation and deactivation of STBs is reflected in the reports generated from the SMS and the CAS terminals.
19. The CAS OEM shall validate that the CAS has the capability of upgrading STBs over-the-air (OTA), so that the connected STBs can be upgraded in the event of hacking.
20. The fingerprinting should not get invalidated by use of any device or software.
21. The CAS should be able to activate or deactivate services or STBs of at least 50% of the subscriber base of the distributor within 24 hours.
22. The STB and Viewing Card (VC) shall be paired from the SMS to ensure security of the content.
23. The CAS should be capable of individually addressing subscribers, for the purpose of generating the reports, on channel by channel and STB by STB basis.
24. The CAS shall be independently capable of generating, recording, and maintaining logs, for the period of at least immediately preceding two consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.
25. The CA Company should be capable of upgrading CA software, in case of a known incidence of hacking/piracy within two weeks of reporting during the entire operational life of set top boxes, free of cost.
26. It shall be possible to generate the following reports from the logs of the CAS:
  - i. STB-VC Pairing / De-Pairing
  - ii. STB Activation / De-activation
  - iii. Channels Assignment to STB
  - iv. Report of the activations or the deactivations of a particular channel for a given period
27. The CAS vendors must have the technical capability in India to maintain the systems on 24x7 basis throughout the year.
28. It should be possible to preserve unedited data of the CAS for at least two years.
29. Some basic functions of the CA include Open/close account, Entitlement , revoke entitlement , OSD, Fingerprint display, conditional blackout, LOC/Unlock STB, parent control , Distributed CA configuration.

30. Additional functions of the CA include program preview control, support pre process scrambling for VOD service, Interface to third party ad insertion services.
31. Some Middleware requirements include Boot splash Advertising, EPG advertising, Mini EPG Advertising, Home Page Video etc.
32. The CAS OEM must support at least 5 different STB Manufacturers.

## **SET TOP BOX (GENERAL SPECIFICATIONS)**

1. The Set Top Box must support at least any one of *five* leading Chipset Manufacturers of International repute with high end memory, advanced security features and graphics processing capability.
2. All STBs should have a **Embedded** Conditional Access System. It will also be the responsibility of the bidder to ensure that the process for opening up the set top box at later date for installation of any other soft CAS is possible and the same to be facilitated to another vendor in the period of 90 days prior to end of contract of 3 years.
3. All drivers of chip sets to be provided to TACTV.
4. The STB OEM must support at least *five* leading CAS OEM vendors. Tentative list of the same is placed at Annexure – I(B). Necessary supporting documents from CAS OEM vendor is required.
5. The requirement is for supply of DVB-C front end Single Tuner HD STB . It should be with PVR functions.
6. The HD Set top Box must be capable of decoding HDTV /SDTV MPEG2 & MPEG4 H.264 decoding.
7. The STB should be capable of decrypting the Conditional Access messages inserted by the Head-end. All firmware drivers etc. to be provided to TACTV.
8. The STB should be capable of doing finger printing. The STB should support both Entitlement Control Message (ECM) and Entitlement Management Message (EMM) based fingerprinting.
9. The STB should be individually addressable from the Head-end.
10. The STB should be able to receive messages from the Head-end.
11. The messaging character length should be minimal 120 characters.
12. There should be provision for global messaging, group messaging and the individual STB messaging.
13. The STB should have forced messaging capability including forced finger printing display.
14. The STB must be compliant to the applicable Bureau of Indian Standards namely IS-16128 of 2013, as amended from time to time, or any other standard approved by any agency authorized by the Central Government.

15. The STB OEM must attach the BIS Certification as documentary evidence.
16. The STBs should be addressable over the air to facilitate OTA software upgrade or through USB interface.
17. There should be a system in place to secure content between decryption and decompression within the STB.
18. The bidder should ensure that there will not be any electrical leakage or electrical shocks.
19. The Bidder should have software support and service centre in Chennai, India for set top boxes to support customization requirements of TACTV over long term .
20. The Bidder shall have authorized service centres in Tamilnadu or shall establish in each district /taluk level or at the specified areas.
21. The bidder should indemnify TACTV and its LCOs against any liabilities arising from copyright/intellectual property rights infringement, royalty issues etc.
22. The Bidder should indemnify TACTV or LCOs against any liabilities arising from nonpayment of royalties to any organization or standards committee.
23. STB should support standard middleware features, by default, such as installation service management, favourite list management, configuration, parental control, language support, software upgrade through OTA, PVR features, Playback functions, EPG functions etc. Subsequently, TACTV shall have an option to add any Middleware in future. Hence, the Chipset proposed must take care of this requirement. Including ' System on chip' support.
24. The fingerprinting should be such that it can identify the unique STB MAC/Sr.No or the unique viewing card (VC) number.
25. The finger printing should appear on all the screens of the STB such as Menu, EPG, etc.
26. The location of the finger printing should be changeable from the head end and should be random on the viewing device.
27. The finger printing should be able to give the numbers of characters as to identify the unique STB and or the VC.
28. The overt finger printing and On Screen Display (OSD) messages of the respective broadcasters should be displayed without any alteration with regard to the time, locations, duration and frequency.
29. The STB should have a provision that OSD is never disabled.
30. The finger printing should not get invalidated by use of any device or software.
31. Advance function support ;
  - a. Pay per view
  - b. Program preview control
  - c. Support pre-process scrambling for push VOD service
  - d. Interface for third party ad insertion services
  - e. Support electronics programme guide ( Min. 5 days)

- f. Support Multilanguage subtitle, if present in the video content.
  - g. Support Multiple Audio Tracks , if present in the Video content
  - h. Channel Selection
  - i. Personal Video Recorder (PVR) through USB functionality
  - j. Games
  - k. Box should have diagnostic page to monitor CAS, SI and RF Info.
  - l. Support various Channel Edit functions such as favourite, move, parental lock etc.,
32. Each STB shall be legibly and indelibly marked with TACTV Logo on both sides, and atleast the following information :
- a. Manufacturers name
  - b. Model and Serial No.
  - c. Country of Manufacture
  - d. Input Voltage
  - e. Power Consumption
  - f. Labels for all Input and output (RF, VIDEO, AUDIO, USB, HDMI etc.)
33. The STB should include frequency scanning function to detect the availability of DVB-C Signals and be capable of programme memory, in case of cut off.
34. The scanning function should display the number of channels currently being scanned, display number of services located, name, network ID, signal strength and quality.
35. The STB software's, EPG, CA features must be upgradable over the air. The instant and personalized message prompt must include display & withdrawal of titles , be able to display current software and hardware version stored in the decoders, able to indicate updates are available or not, able to indicate unique serial number and state of STB decoder, able to indicate type of middleware and other resident application version numbers.
36. The Set Top Box shall also be tested as per BIS 13252:2010 (Audio, Video and similar Electronic Apparatus –Safety Requirements) as per “The Gazette of India “notification Part II-Section 3-Sub section (ii) dated October 3, 2012 Vide “Ministry of Communications and Information Technology “order dated 7<sup>th</sup> September 2012.
37. The time out play for the STB should be minimum of 8 hours (even if the CAS is shut down, the signal should last for 8 hours in the STB)
38. The power supply design of STB may include Transient voltage suppressors as a protection mechanism to minimize damages due to voltage fluctuations.
39. The Power Supply adaptor provided must be of good and durable quality.
40. The Remote Control Unit of the set top box must be able to execute the following functions
- a. Power (on/off)
  - b. Fav (Favorite Channel List)
  - c. Mute (Turns on/off the sound temporarily)
  - d. Numeric Buttons (inputs numerical value)
  - e. TV/Radio
  - f. Recall ( recalls previous service)
  - g. Menu

- h. EPG
- i. Info (displays additional channel information)
- j. Exit ( Exits the current menu)
- k. Navigation Button ( up, down, right , left)
- l. OK
- m. Volume UP /Volume Down
- n. Appl (Displays the Mutimedia Menu)
- o. GOTO (Sets media play time)
- p. Play ( Plays a media file)
- q. Rec ( begins to record the program)
- r. Stop ( Stops media play)
- s. FF ( Fast forward media play)
- t. REW ( Rewind a portion during media play)
- u. Audio ( Selecting Audio Language)
- v. PVR List ( go to PVR Menu directly)
- w. Red, green, yellow, blue buttons to add/delete favorite, Genre, to go to Message menu, Audio Selection language.

41. The following parameters for the Set Top Box shall be given during the time of installation
  - a. Starting Frequency
  - b. Network ID
  - c. Symbol Rate
  - d. Boot up Logo
  - e. Watermark ( along with the Location)
  - f. Background Channel Updation
  - g. Which LCN Number should come first after boot up.
42. The Forced Message sent to STB must stay when the Box is on and also when the Box is switched Off and on again with in a particular time duration.
43. The Finger Print sent to the STB must stay when the Box is on and also when the Box is Switched off and on again with in a particular time duration.
44. Schematic diagram of PCB layout of STB should be submitted with Part-I Technical Bid.
45. The Software encryptions key that allows to update machine software to be provided.
46. Source code, Bootloader & firmware code, All drivers of the modules like flash, demux, tuner, IR, remote and any other modules used in the box, Any middleware code that interacts with driver code and Conditional access API'S, APPLICATION SOURCE CODE, the entire SDK with all source code, Libraries etc to be provided. **Else notarized self-declaration to support for the life time of the set top box to be provided.**

## **I. MPEG 4 HD Digital Set Top Box:**

### **Features:**

- DVB –C Tuner
- It will be 8/64MB HD box

- HD Set Top Box shall also have all the features of SD Box
- Multi format video decoder capable of HD MPEG2/ MPEG AVC/H.264 decoding
- Should support all profiles and levels of video decoding as per ISO/IEC 14496-10
- Support USB 2.0 PVR, MPEG2, MPEG4, VC-1, MP3, AAC, Digital Photos JPEG, GIF, TIF/TIFF, BMP, PNG etc
- Should be able to decode MPEG 1, MPEG 4 Stereo, 5.1 , Dolby Digital Audio
- Should be capable of supporting 576 i, 576 p. 1080 I and 720 P formats to allow optimum picture performance with standard TV's and HDTV's
- Should be able to store and support 1000 Channels
- It should be possible to choose LCN from 0 to 9999.
- The chipset (System on a Chip) must be High Performance, Programmable, High speed, Central Processing Unit Cores for Audio/Video and Application Systems, fully compliant with DVB-C & ITU J83 /AC Specifications supporting from 16 to 256 QAM, Multistandard Video decoding, Multistandard Audio Decoding, Programmable Output, Peripheral Interfaces, Advanced security system, Low Power consumption with standby control modes.
- Should support PVR Control
- Software upgrade through USB & OTA
- Shall support real time scrambling of VOD Services
- HDMI connector for connecting High Definition Television
- Digital Audio Output to connect to high end audio equipment's
- USB 2.0 port connectivity for external mass storage devices through USB.
- Remote Control : IR ( 38 K.Hz) , 2 x 1.5 V AAA
- Power Consumption in St.by mode < 1 W

<b>Chip Processor&amp; Memory</b>
-----------------------------------

- Flash Memory : 8MB
- System Memory 64MB
- With Advanced Security Features

S.No.	Parameters	HD set top boxes
<b>1)</b>	<b>Technical Requirements</b>	
(i)	BIS Standard	The Digital Set Top Box must comply to BIS Standard IS 16128 “ Set Top Box for MPEG 4 Digital Cable TV Services”
(ii)	Demodulation and Forward Error Correction (FEC) decoding	Capability to demodulate and decode signals channel coded and modulated in accordance with the DVB-C standard (SI No.1 of Annex B)
(iii)	Decompression/decoding video	The STB should be capable of decompressing and decoding High Definition Television (HDTV) video signals compressed and coded in accordance with SI No.7 of Annex B

S.No.	Parameters	HD set top boxes
		a) It should be capable of decoding both 1080i and 720p HDTV formats.
(iv)	Decompression/decoding audio	Capability to either: <ul style="list-style-type: none"> <li>a) Decompress, decode according to metadata and down-mix to stereo for Multichannel audio, all of the following formats:               <ul style="list-style-type: none"> <li>1) MPEG-1 Layer 2</li> <li>2) E-AC-3 (SI No. 21 of Annex B)</li> <li>3) MPEG-4 HE AAC stereo</li> </ul> </li> <li>b) Pass through all of the following multi - channel formats:               <ul style="list-style-type: none"> <li>1) E-AC-3 (SI No. 21 of Annex B)</li> <li>2) AC-3 (SI No. 21 of Annex B)</li> <li>3) MPEG-4 HE AAC 5.1</li> <li>4) MPEG2 5.1</li> <li>5) DTS (Digital theatre Sound)</li> </ul> </li> <li>c) Transcode all the following input formats to AC-3:               <ul style="list-style-type: none"> <li>1) E-AC-3 (SI No. 21 of Annex B)</li> <li>2) MPEG-4 HE AAC</li> </ul> </li> </ul>
(v)	Data Services	Capability to receive and process data streams (SI No. 11 and SI No.12 of Annex B)
(vi)	Subtitle streams	Capability to receive and process subtitle steams (SI No. 18 of Annex B)
(vii)	Service de-multiplexing	Capability to receive and process Service Information (SI) (SI No. 16 and SI No.17 of Annex B)
(viii)	Conditional Access/scrambling	<ul style="list-style-type: none"> <li>a) Capability to descramble services scrambled in accordance with DVB-CSA (SI No. 13 of Annex B) including decryption of signals which have been simulcrypt (SI.No.19 and SI No.20 of Annex B)</li> <li>b) STB may have provision for smart card operation. If smart card is provided, it shall be in accordance with IS 14202 (Parts 1,2 and 3)</li> </ul>
(ix)	Upstream Communication	-
(x)	Interfaces/connectors	<ul style="list-style-type: none"> <li>a) RF Input: 75 <math>\Omega</math> Impedance, Female Connector (SI No 22 of Annex B)</li> <li>b) <i>Loop Out : IEC Female</i></li> <li>c) Composite Video - RCA type : Yellow</li> <li>d) Output Audio:</li> <li>e) RCA type: Stereo/mono</li> <li>f) RCA type: L-White, R-Red</li> <li>g) HDMI (SI No.23 of Annex B)</li> <li>h) USB 2.0 Ports</li> </ul>

S.No.	Parameters	HD set top boxes
		i) Digital Audio SPDIF 1) Optical j) Connectors: 1) HDMI 2) USB
(xi)	Software updation mechanism	(SI No.15 of Annex B)
(xii)	PVR Functionally	This shall be provided for enabling the recording of live A/V programs to the STB hard drive/USB Storage media and the ability to play back video with VCR like Controls.
<b>Performance requirements</b>		
(i)	Electrical Specifications: a) Input voltage range b) Frequency	a) 90-270 V a.c b) 50 Hz $\pm$ 2 percent
(ii)	RF Characteristics to be supported by the receiver: a) System b) Modulation c) RF Carrier signal Level d) Carrier level difference between distributed TV channels (47 -862 MHz range) e) Amplitude response within a TV Channel. f) Lowest carrier to interference ratio g) Cross modulation h) Digital video RF characteristics i) Carrier /Noise (C/N) ratio	a) As per DVB-C standard. b) 32 QAM, 64 QAM, 128QAM, 256QAM c) 47 dB $\mu$ V Min for 64QAM 67 dB $\mu$ V Max for 64 QAM (4.10.3 of IS 13420 (part-1)) d) 3 dB Max for 64 QAM for adjacent channel 13dB Max for 64QAM for adjacent channel to AM VSB channel e) Variation (pp): 8 dB Max Slope of variation : 1.5 dB/MHz Max (4.2 of IS 13420 (part 1)) f) 35 dB Min for 64 QAM g) $>46 + 10 \lg (N-1)$ where N= No.of channels h) Constellation of 16QAM, 64 QAM and 256 QAM are desirable. Other constellations (32QAM and 128QAM) may also be used. The constellation used shall be automatically detected. i) 31 dB Min for 64 QAM
(iii)	Channel tuner performance characteristics: a) RF input level b) Input frequency range	a) Same as mentioned in SI.No.ii b) 47-862 MHz c) 7 MHz for VHF and 8 MHz for UHF

<b>S.No.</b>	<b>Parameters</b>	<b>HD set top boxes</b>
	c) RF input channel bandwidth d) RF Input impedance e) RF input return loss f) Frequency assignment download	d) 75 $\Omega$ e) 6 dB Min [4.1.1 of IS 14231 (Part 3)] f) Optional
<b>(iv)</b>	Remote control	Mandatory
<b>(v)</b>	Operating ambient temperature range	5° to 50° C
<b>(vi)</b>	Operating humidity range	5 percent to 95 percent (non-condensing)
<b>(vii)</b>	Finger Printing	Mandatory but service provider free to choose mechanism
<b>Other Requirements</b>		
<b>(i)</b>	General Requirements	a) The STB shall support reception and processing of DVB-C (as laid in SI No. 1 of Annex B) compliant digitally modulated and encrypted signal, as per DVB-CSA (as laid in SI No. 13 of Annex B), received via a cable TV network in accordance with IS 13420 (Part 1). For interactive applications, STB may have the provision of processing signal on the return path, if the return path is provided by the service provider in accordance with IS 14231 (Part 8).The Manufacturer shall declare the capability of the STB and its interoperability, if any, on various cable TV networks in the instruction manual to be supplied with the STB.  b) The manufacturer shall ensure compatibility/interfaces with consumer electronic equipment(s) such as televisions audio and video systems, VCR's etc in the country.
<b>(ii)</b>	Safety Requirements	The safety requirements of Receiver shall conform to IS 13252
<b>(iii)</b>	Electromagnetic Compatibility (EMC) Requirements	The EMC requirement of the STB shall conform to IS 6873 (Part 3)

## ANNEXURE I (B)

### CAS PROVIDERS

1. NDS-Cisco
2. Nagra-Kudelski
3. IRDETO;
4. CONAX - Kudelski
5. Verimatrix
6. iCAS-Bydesign
7. Cryptogaurd
8. Arris-Latens
9. SAFEVIEW\*
10. LRIPL-Only1
11. Logic Eastern-OneCAS
12. NAGRAVISION;
13. Security TV/Cryptguard
14. Ridsys\*

And any other certified Indian CAS provider

\*-Existing CAS at TACTV Headend.

## COMPLIANCE TO THE TECHNICAL SPECIFICATIONS

The bidders should specify the specifications of set top boxes to be supplied. The Compliance report should be enclosed along with technical bid. Specification of offered equipment's is to be written clearly in the column of "OFFERED SPECIFICATIONS" in the table given below. Offers without clear specifications on the said column will be treated as non-responsive and rejected.

S.No.	Specifications	OFFERED SPECIFICATIONS (Specify exact specification)
<b>1) Addressable Systems Requirements</b>		
<b>I. Conditional Access System (CAS):</b>		
	<ol style="list-style-type: none"> <li>1. The current version of the CAS, in use, should not have any history of hacking. <b>Explanation:</b> A written declaration available with the distributor from the CAS vendor, in this regard, shall be construed as compliance of this requirement.</li> <li>2. The CAS should be DVB compliant with middleware platform and providing the encryption to the value added service.</li> <li>3. The CAS system should have an uncompromised security features. Bidders must indicate the CAS version and should indicate if there was any security compromise in the last 5 years.</li> <li>4. The system shall have standards based APIs to transfer purchase information to logistical and billing systems.</li> <li>5. The CA System shall include an encryption mechanism suitable for DVB-CSA Encryption</li> </ol>	

	<ol style="list-style-type: none"> <li>6. The CA system shall be capable of encrypting clear content provided by various broadcasters to ensure security of content.</li> <li>7. The CA System shall be capable of providing the above mentioned support for broadcast TV and Video on demand.</li> <li>8. The offered system shall be the one that has been approved by major content aggregators and major broadcast channels.</li> <li>9. The system shall have support graphical interface for creating new service offerings.</li> <li>10. The system shall have a mechanism to test a new service offering before publishing the same.</li> <li>11. The CA system should generate ECM using the control word supplied by the scrambling control system. The ECM's delivery should support DVB Simulcrypt specifications.</li> <li>12. The CA System should be capable of delivering authentication EMM and auto refreshing EMMs to the STBs.</li> <li>13. CAS bidder must also be able to provide solution on VOD, EPG and Middleware.</li> <li>14. The CA System should have the capability to support at least 1000 bouquets/packages.</li> <li>15. The software download capability is needed to support STB upgrade, downgrade targeting single and group STB's.</li> <li>16. It shall not be possible to alter the data and logs recorded in the CAS.</li> <li>17. The CAS, in use, should not have facility to activate and deactivate a Set Top Box (STB) directly from the CAS terminal. All activation and deactivation of STBs shall be done with the commands of the SMS.</li> </ol>	
--	---	--

- |   |  |
|---|--|
| <p>18. The SMS and the CAS should be integrated in such a manner that activation and deactivation of STB happen simultaneously in both the systems.</p> <p><b>Explanation:</b> Necessary and sufficient methods shall be put in place so that each activation and deactivation of STBs is reflected in the reports generated from the SMS and the CAS terminals.</p> <p>19. The CAS OEM shall validate that the CAS has the capability of upgrading STBs over-the-air (OTA), so that the connected STBs can be upgraded in the event of hacking.</p> <p>20. The fingerprinting should not get invalidated by use of any device or software.</p> <p>21. The CAS should be able to activate or deactivate services or STBs of at least 50% of the subscriber base of the distributor within 24 hours.</p> <p>22. The STB and Viewing Card (VC) shall be paired from the SMS to ensure security of the content.</p> <p>23. The CAS should be capable of individually addressing subscribers, for the purpose of generating the reports, on channel by channel and STB by STB basis.</p> <p>24. The CAS shall be independently capable of generating, recording, and maintaining logs, for the period of at least immediate preceding two consecutive years, corresponding to each command executed in the CAS including but not limited to activation and deactivation commands issued by the SMS.</p> <p>25. The CA Company should be capable of upgrading CA software, in case of a known incidence of hacking/piracy within two weeks of reporting during the entire operational life of set top boxes, free of cost.</p> <p>26. It shall be possible to generate the following reports from the logs of the CAS:</p> |  |
|---|--|

	<ul style="list-style-type: none"> <li>i. STB-VC Pairing / De-Pairing</li> <li>ii. STB Activation / De-activation</li> <li>iii. Channels Assignment to STB</li> <li>iv. Report of the activations or the deactivations of a particular channel for a given period</li> </ul> <p>27. The CAS vendors must have the technical capability in India to maintain the systems on 24x7 basis throughout the year.</p> <p>28. Upon deactivation of any subscriber from the SMS, all programme/ services shall be denied to that subscriber.</p> <p>29. It should be possible to preserve unedited data of the CAS for at least two years.</p> <p>30. Some basic functions of the CA include Open/close account, Entitlement , revoke entitlement , OSD, Fingerprint display, conditional blackout, LOC/Unlock STB, parent control , Distributed CA configuration.</p> <p>31. Additional functions of the CA include program preview control, support preprocess scrambling for VOD service, Interface to third party ad insertion services.</p> <p>32. Some Middleware requirements include Boot splash Advertising, EPG advertising, Mini EPG Advertising, Home Page Video etc.</p> <p>33. The CAS OEM must support at least 5 different STB Manufacturers.</p>	
--	--	--

<b>4) Set Top Box (STB):</b>		
<b>I. General</b>		
	<ol style="list-style-type: none"> <li>1. The Set Top Box must support at least any one of <i>five</i> leading Chipset Manufacturers of International repute with high end memory, advanced security features and graphics processing capability.</li> <li>2. All STBs should have an Embedded Conditional Access System. T</li> <li>3. The embedded CAS should be able to be opened up prior to end of contract period for installation of alternative CAS as a software CAS.</li> <li>4. All drivers of chip sets to be provided to TACTV.</li> <li>5. The STB OEM must support at least <i>five</i> leading CAS OEM vendors. Tentative list of the same is placed at Annexure – I(B). Necessary supporting documents from CAS OEM vendor is required.</li> <li>6. The requirement is for supply of DVB-C front end Single Tuner HD STB . It should be with PVR functions.</li> <li>7. The HD Set top Box must be capable of decoding HDTV /SDTV MPEG2 &amp; MPEG4 H.264 decoding.</li> <li>8. The STB should be capable of decrypting the Conditional Access messages inserted by the Head-end. All firmware drivers etc to be provided to TACTV.</li> <li>9. The STB should be capable of doing finger printing. The STB should support both Entitlement Control Message (ECM) and Entitlement Management Message (EMM) based fingerprinting.</li> <li>10. The STB should be individually addressable from the Head-end.</li> <li>11. The STB should be able to receive messages from the Head-end.</li> <li>12. The messaging character length should be minimal 120 characters.</li> <li>13. There should be provision for global messaging, group messaging and the individual STB messaging.</li> <li>14. The STB should have forced messaging capability including forced finger printing display.</li> </ol>	

	<ol style="list-style-type: none"> <li>14. The STB must be compliant to the applicable Bureau of Indian Standards namely IS-16128 of 2013, as amended from time to time, or any other standard approved by any agency authorized by the Central Government.</li> <li>15. The STB OEM must attach the BIS Certification as a documentary evidence.</li> <li>16. The STBs should be addressable over the air to facilitate OTA software upgrade.</li> <li>17. There should be a system in place to secure content between decryption and decompression within the STB.</li> <li>18. The bidder should ensure that there will not be any electrical leakage or electrical shocks.</li> <li>19. The Bidder should have software support and service centre in India for set top boxes to support customization requirements of TACTV over long term</li> <li>20. The Bidder shall have authorized service centres in Tamilnadu or shall establish in each district /taluk level.</li> <li>21. The bidder should indemnify TACTV and its LCOs against any liabilities arising from copyright/intellectual property rights infringement, royalty issues etc.</li> <li>22. The Bidder should indemnify TACTV or LCOs against any liabilities arising from nonpayment of royalties to any organization or standards committee.</li> <li>23. STB should support middleware features</li> <li>24. The fingerprinting should be such that it can identify the unique STB MAC/Sr.No or the unique viewing card (VC) number.</li> <li>25. The finger printing should appear on all the screens of the STB such as Menu, EPG, etc.</li> <li>26. The location of the finger printing should be changeable from the head end and should be random on the viewing device.</li> </ol>	
--	---	--

- |   |  |
|---|--|
| <ol style="list-style-type: none"><li>27. The finger printing should be able to give the numbers of characters as to identify the unique STB and or the VC.</li><li>28. The overt finger printing and On screen display (OSD) messages of the respective broadcasters should be displayed without any alteration with regard to the time, locations, duration and frequency.</li><li>29. The STB should have a provision that OSD is never disabled.</li><li>30. The finger printing should not get invalidated by use of any device or software.</li><li>31. Advance function support ;<ol style="list-style-type: none"><li>a. Pay per view</li><li>b. Program preview control</li><li>c. Support pre-process scrambling for push VOD service</li><li>d. Interface for third party ad insertion services</li><li>e. Support electronics programme guide ( Min. 5 days)</li><li>f. Support Multilanguage subtitle, if present in the video content.</li><li>g. Support Multiple Audio Tracks , if present in the Video content</li><li>h. Channel Selection</li><li>i. Personal Video Recorder (PVR) through USB functionality</li><li>j. Games</li><li>k. Box should have diagnostic page to monitor CAS, SI and RF Info.</li></ol></li></ol> |  |
|---|--|

S.No.	Parameters	HD set top boxes
	<b>Technical Requirements</b>	
1	BIS Standard	The Digital Set Top Box must comply to BIS Standard IS 16128 “ Set Top Box for MPEG 4 Digital Cable TV Services”
2	Demodulation and Forward Error Correction (FEC) decoding	Capability to demodulate and decode signals channel coded and modulated in accordance with the DVB-C standard (SI No.1 of Annex B)
3	Decompression/decoding video	The STB should be capable of decompressing and decoding High Definition Television (HDTV) video signals compressed and coded in accordance with SI No.7 of Annex B It should be capable of decoding both 1080i and 720p HDTV formats.
4	Decompression/decoding audio	Capability to either: a) Decompress, decode according to metadata and down-mix to stereo for Multichannel audio, all of the following formats: <ol style="list-style-type: none"> <li>1. MPEG-1 Layer 2</li> <li>2. E-AC-3 (SI No. 21 of Annex B)</li> <li>3. MPEG-4 HE AAC stereo</li> </ol> b) Pass through all of the following multi - channel formats: <ol style="list-style-type: none"> <li>1.E-AC-3 (SI No. 21 of Annex B)</li> <li>2.AC-3 (SI No. 21 of Annex B)</li> <li>3. MPEG-4 HE AAC 5.1</li> <li>4.MPEG2 5.1</li> <li>5.DTS (Digital theatre Sound)</li> </ol> c) Transcode all the following input formats to AC-3: <ol style="list-style-type: none"> <li>1.E-AC-3 (SI No. 21 of Annex B)</li> <li>2.MPEG-4 HE AAC</li> </ol>

S.No.	Parameters	HD set top boxes
5	Data Services	Capability to receive and process data streams (SI No. 11 and SI No.12 of Annex B)
6	Subtitle streams	Capability to receive and process subtitle steams (SI No. 18 of Annex B)
7	Service de-multiplexing	Capability to receive and process Service Information (SI) (SI No. 16 and SI No.17 of Annex B)
8	Conditional Access/scrambling	a. Capability to descramble services scrambled in accordance with DVB-CSA (SI No. 13 of Annex B) including decryption of signals which have been simulcrypt (SI.No.19 and SI No.20 of Annex B) b. STB may have provision for smart card operation. If smart card is provided, it shall be in accordance with IS 14202 (Parts 1,2 and 3)
9	Upstream Communication	-
10	Interfaces/connectors	a) RF Input: 75 $\Omega$ Impedance, Female Connector (SI No 22 of Annex B) b) <i>Loop Out : IEC Female</i> c) Composite Video - RCA type : Yellow  d) Output Audio: e) RCA type: Stereo/mono f) RCA type: L-White, R-Red g) HDMI (SI No.23 of Annex B) h) USB 2.0 Ports i) Digital Audio SPDIF - Optical j) Connectors: 1. HDMI 2. USB
11	Software updation mechanism	(SI No.15 of Annex B)
12	PVR Functionally	This shall be provided for enabling the recording of live A/V programs to the STB hard drive/USB Storage media and the ability to play back video with VCR like Controls.

	<b>Performance requirements</b>	
1	Electrical Specifications: a) Input voltage range b) Frequency	a) 90-270 V a.c b) 50 Hz $\pm$ 2 percent
2	RF Characteristics to be supported by the receiver: a) System b) Modulation c) RF Carrier signal Level d) Carrier level difference between distributed TV channels (47 - 862 MHz range) e) Amplitude response within a TV Channel. f) Lowest carrier to interference ratio g) Cross modulation h) Digital video RF characteristics i) Carrier /Noise (C/N) ratio	a) As per DVB-C standard. b) 32 QAM, 64 QAM, 128QAM, 256QAM c) 47 dB $\mu$ V Min for 64QAM 67 dB $\mu$ V Max for 64 QAM (4.10.3 of IS 13420 (part-1)) d) 3 dB Max for 64 QAM for adjacent channel 13dB Max for 64QAM for adjacent channel to AM VSB channel e) Variation (pp): 8 dB Max f) Slope of variation : 1.5 dB/MHz Max (4.2 of IS 13420 (part 1)) g) 35 dB Min for 64 QAM h) $>46 + 10 \lg (N-1)$ where N= No.of channels i) Constellation of 16QAM, 64 QAM and 256 QAM are desirable. Other constellations (32QAM and 128QAM) may also be used. The constellation used shall be automatically detected. j) 31 dB Min for 64 QAM

3	Channel tuner performance characteristics: a) RF input level b) Input frequency range c) RF input channel bandwidth d) RF Input impedance e) RF input return loss f) Frequency assignment download	a) Same as mentioned in SI.No.2 b) 47-862 MHz c) 7 MHz for VHF and 8 MHz for UHF d) 75 Ω e) 6 dB Min [4.1.1 of IS 14231 (Part 3)] f) Optional
4	Remote control	Mandatory
5	Operating ambient temperature range	5° to 50° C
6	Operating humidity range	5 percent to 95 percent (non-condensing)
7	Finger Printing	Mandatory but service provider free to choose mechanism

<b>Other Requirements</b>		
1	General Requirements	<p>a. The STB shall support reception and processing of DVB-C (as laid in SI No. 1 of Annex B) compliant digitally modulated and encrypted signal, as per DVB-CSA (as laid in SI No. 13 of Annex B), received via a cable TV network in accordance with IS 13420 (Part 1). For interactive applications, STB may have the provision of processing signal on the return path, if the return path is provided by the service provider in accordance with IS 14231 (Part 8).The Manufacturer shall declare the capability of the STB and its interoperability, if any, on various cable TV networks in the instruction manual to be supplied with the STB.</p> <p>b. The manufacturer shall ensure compatibility/interfaces with consumer electronic equipment(s) such as televisions audio and video systems, VCR's etc in the country.</p>

2	Safety Requirements	The safety requirements of Receiver shall conform to IS 13252
3	Electromagnetic Compatibility (EMC) Requirements	The EMC requirement of the STB shall conform to IS 6873 (Part 3)
4	Specification of the firmware software	

## LIST OF REFERRED INDIAN STANDARDS

S.No.	Title
6873 (Part 3) : 1999	Limits and methods of measurement of radio disturbance characteristics: Part 3 Sound and television broadcast receivers and associated equipment (first revision)
9000	Basic environmental testing procedures for electronic and electrical items
(Part 2/ Sec 4) : : 1977	Cold test for heat dissipating items with gradual change of temperature
(Part 3/Sec 5) : 1977	Dry heat test for heat dissipating items with gradual change of temperature
(Part 5/Sec 1) : 1981	Damp heat cyclic test, Section 1 16+8h cycle
(Part 7/Sec 2) : 1979	Bump
13252 : 1992	Safety of information technology equipment including electrical business equipment
13420 (Part 1) : : 2002	Cabled distribution systems: Part 1 Methods of measurement and system performance.
14202	Identification cards – Integrated circuits) – Cards with contacts
(Part 1) : 2003	Physical characteristics (first revision)
(Part 2) : 2003	Dimensions and locations of the contacts (first revision)
(Part 3) : 2002	Electronic signals and transmission protocols
14231	Cabled distribution system for television and sound signals
(Part 3) : 1995	Active coaxial wideband distribution components
(Part 8) : 2002	System performance of return path

## ANNEXURE-IV

### LIST OF REFERRED INTERNATIONAL STANDARDS

S.No.	Reference No.	Title
1	EN 300 429 Ver. 1.2.1	Framing structure channel coding and modulation for cable systems (DVB-C)
2	EN 302 769 Ver. 1.2.1	Framing structure channel coding and modulations for a second generation digital transmission system for cable systems (DVB-C2)
3	TS 102 991 Ver. 1.2.1	DVB-C2 Implementation guidelines
4	ISO/IEC 13818-1	Information technology – Generic coding of moving pictures and associated audio information Part 1 : System (MPEG 2)
5	ISO/IEC 13818-2 : 2000	Information technology – Generic coding of moving pictures and associated audio information Part 2 Video Coding
6	ISO/IEC 14496-3 : 2005	Information technology – Coding of audio-visual objects: Part 3 Audio
7	ISO/IEC 14496-10 : 2008	Information technology – Coding of audio-visual objects: Part 10 Advanced Video Coding (MPEG-4 Part 10 AVC)
8	ISO/IEC 11172-3 : 1993	Information technology – Coding of moving pictures and associated audio for digital storage media at up to about 1.5 Mbit/s: Part 3 Audio: MPEG-1 Audio Layer II
9	ISO/IEC 7816 (all Parts)	Specifications for smart cards
10	ETSI TS 101 154 Ver. 1.10.1	Digital Video Broadcasting (DVB) Specification for the use of Video and Audio Coding in Broadcasting Applications based on the MPEG-2 Transport Stream.
11	ETSI EN 301 192 Ver. 1.4.2	Digital Video Broadcasting (DVB) DVB specification for data broadcasting
12	TR 101 202 Ver. 1.2.1	Digital Video Broadcasting (DVB) Implementation guidelines for Data Broadcasting
13	EN 50221 Ver. 1	Common Interface Specification for Conditional Access and other Digital Video Broadcasting Decoder Applications and ETR 289 Ver. 1 Support for use of scrambling and Conditional Access (CA) within digital broadcasting systems
14	TS 101 699 Ver. 1.1.1	Digital Video Broadcasting (DVB) Extensions to the Common Interface Specification

<b>S.No.</b>	<b>Reference No.</b>	<b>Title</b>
15	TS 102 006 Ver. 1.3.2	Digital Video Broadcasting (DVB) Specification for System Software Update in DVB Systems.
16	ETSI EN 300 468 Ver. 1.12.1	Specifications for Service Information (SI) in DVB systems.
17	TS 101 211 Ver. 1.10.1	Guidelines on implementation and usage of Service Information (SI) in DVB systems.
18	ETSI EN 300 743 Ver. 1.3.1	Subtitling Systems
19	TS 101 197 Ver. 1.2.1	DVB Simulcrypt: Head-end architecture and synchronization
20	TS 103 197 Ver. 1.5.1	Head-end implementation of DVB Simulcrypt
21	ETSI TS 102 366 Ver. 1.2.1	Digital Audio Compression (AC-3, Enhanced AC-3) Standard
22	IEC 60169-24	Radio-frequency connectors – Part 24: Radio-frequency coaxial connectors with screw coupling, typically for use in 75 ohm cable distribution systems (Type F)
23	ETSI TS 102 201	Interfaces for DVB Integrated Receiver Decoder (DVB-IRD)
24	ITU-R BT 470-7	Conventional analogue television systems.
25	ETSI TS 103 605	Interoperability of STBs

ANNEXURE-V

**DETAILS OF THE TENDERER**

1. Name of the Tenderer	
2. Registered Office Address	
3. Telephone Number	
4. Fax	
5. Email	
6. Website, if any	
7. Contact Person	Name: Designation: Phone: Mobile: Email
8. Date of Incorporation	
9. Legal Status	Proprietorship/partnership/Pvt. Limited/Public Limited/others (Pl. mention)
10. Addresses of Offices located in Tamilnadu along with phone number, fax and email	
11. Brief profile of the Tenderer	
12. Registration Number as a firm under GST	
13. Service Tax	
14. PAN Number	

ANNEXURE-VI

**PART-I**

Date: \_\_\_\_\_

\_\_\_\_\_

From,  
Name:  
Address:  
Ph:  
Fax:  
E-mail:

To,  
The Managing Director,  
Tamilnadu Arasu Cable TV Corporation Limited (TACTV),  
No: 807, Anna Salai, 4<sup>th</sup> Floor,  
P.T.Lee. Chengalvarayan Trust Building,  
Chennai 600 002  
Sir,

Sub: Tender to provide STB along with CAS, to TACTV on Franchisee Model  
Ref: Your Tender Notice Dt. ....

With reference to your tender notice, we submit herewith our sealed tender for providing the STB along with CAS, to TACTV on Franchisee Model:

We enclose the following documents:

- 1) Tender conditions duly signed in each page
- 2) Demand Draft no. \_\_\_\_\_ for Rs.10,00,000/- (Rupees Ten lakhs only), in favour of "Tamil Nadu Arasu Cable TV Corporation Limited", Drawn on \_\_\_\_\_

Bank payable at Chennai, towards Earnest Money Deposit.

- 3) Authorization letter from the Agency for the person to sign the tender.
- 4) Details of the Tenderer (as per Annexure-V)

- 5) Average annual turnover statement duly certified by a Chartered Accountant (as per Annexure-VII).
- 6) Declaration for not having black listed either by TACTV or by any other Govt. agencies (as per Annexure-VIII).
7. Declaration for not having tampered the Tender documents downloaded from the websites www.tactv.in and www.tenders.tn.gov.in (Annexure-IX).
8. The copy of certificate of incorporation/registration.
9. Copy of Memorandum and Articles of Association.
10. Copy of Registered Partnership deed, in case of Partnership Firm.
11. Purchase Orders issued by the clients
12. Chennai Office Address or Declaration
13. Tie Up Letter with CAS/SMS provider
14. The Annual Report / certified copies of Balance Sheet, Profit & Loss statement along with schedules for the last 3 consecutive financial years i.e FY 2019-20,2020-21 & 2021-22
15. Land Border – Exemption certificate
16. Declaration for Bidder not having association
17. Copy of Registration certificate as a firm under GST.
18. Copy of PAN allotment Certificate/ PANCARD issued by Income Tax Department.
19. Notarized translated English version of the documents in a language other than English/Tamil, if any.

Yours faithfully,

**SIGNATURE OF THE  
TENDERER**

**Encl: As stated above**

ANNEXURE-VII

**ANNUAL TURN OVER STATEMENT**

The Annual turnover of M/s. .... for the past three years are given below and certified that the statement is true and correct.

S.No	Year	Turnover (Rs. in lakh)
1	2019-2020	
2	2020-2021	
3	2021-2022	
	Total	
Average Annual turnover		

**DATE :**

**SIGNATURE OF THE TENDERER**

**SIGNATURE OF CHARTERED ACCOUNTANT (with seal and Address)**

ANNEXURE-VIII

**CERTIFICATE**

Date: \_\_\_\_\_

Certified that M/s...../ the firm /company or its partners / share

holders had not been blacklisted by Tamil Nadu Arasu Cable TV Corporation Limited (TACTV), or by any Government Agencies.

**SIGNATURE OF THE  
TENDERER**

**(with seal and address)**

ANNEXURE-IX

**DECLARATION FORM**

Date: \_\_\_\_\_

a) I/We ..... having our office at ..... do declare that I/We have carefully read all the conditions of tender sent to me/us by the Tamilnadu Arasu Cable TV Corporation Limited (TACTV), for the tenders floated vide tender ref.no.\_\_\_\_\_ for providing the STB's along with CAS to TACTV on Franchisee Model for a period of three years and complete the contract as per the tender conditions.

b) I/We have downloaded the tender document from the internet site [www.tactv.in](http://www.tactv.in) / [www.tenders.tn.gov.in](http://www.tenders.tn.gov.in) and I /We have not tampered / modified the tender document in any manner. In case, if the same is found to be tampered / modified, I/ We understand that my/our tender will be summarily rejected and full Earnest Money Deposit will be forfeited and I /We am/are liable to be banned from doing business with TACTV or prosecuted.

**SIGNATURE OF THE TENDERER**

**(with seal and address)**

ANNEXURE-X

**PART-II**

From,

Name:

Address:

Ph:

Fax:

E-mail:

To,

The Managing Director,  
Tamilnadu Arasu Cable TV Corporation Limited No:  
807, Anna Salai, 4<sup>th</sup> Floor, P.T.Lee. Chengalvarayan  
Trust Building, Chennai 600 002

Sir,

Sub: Tender for providing the STB's along with CAS to TACTV on Franchisee Model “- Submission of Part – II – Price Offer-Reg

Ref:- Our tender (Technical Bid) submitted today for providing the STB's along with CAS to TACTV on Franchisee Model”

----

In continuation of our above tender, we submit herewith the price offer for “providing the STB's along with CAS to TACTV on Franchisee Model” as specified by TACTV in this tender document. We agree to abide by the terms and conditions stipulated by the TACTV and also agree to complete the entire contract, at the rates quoted by us. The rate quoted and approved by the TACTV in this tender will hold good as per TACTV tender conditions.

Yours  
faithfully,

**SIGNATURE OF THE  
TENDERER**

**ANNEXURE – XI**

**PRICE BID**

**Monthly charges for supply of Set Top Box along with the conditional Access System (integrate with existing SMS at TACTV headend) to TACTV's Local Cable Operators through a franchisee model.**

**(Excluding GST)**

<b>S. No.</b>	<b>Description</b>	<b>EMI per active STB (in INR) per Month for 36 months contract period*</b>
1.	Equated Monthly Installment for supply of High Definition Set Top Boxes to TACTV	

\* This EMI shall include cost of STB, all charges towards provision for CAS server/CAS perpetual license/ software, CAS perpetual licensing Key for Set top boxes and the CAS server/ CAS software shall be the perpetual property of TACTV for which no further fee shall be payable after 36 months of contract period. Any software upgraded or AMC after 3 years shall be at the sole discretion of TACTV, payable to tenderer or to the OEM if required.

**OPTIONAL COST**

<b>S. No.</b>	<b>Description</b>	<b>per active STB (in INR) /Per Year</b>
1.	Cost towards Comprehensive replacement warranty of STBs/ for 4 <sup>th</sup> and 5 <sup>th</sup> year including software upgrades of CAS all hardware equipment's etc.	

I agree for further negotiation in rates.

**Signature of Bidder**

## **ANNEXURE-XII**

### **CHECKLIST OF DOCUMENT**

#### **Documents to be enclosed in Part-I:**

- 1.A covering letter on your letter head addressed to The Managing Director, Tamilnadu Arasu Cable TV Corporation Limited (TACTV), No: 807, Anna Salai, 4<sup>th</sup> Floor, P.T.Lee. Chengalvarayan Trust Building, Chennai 600 002 (as per Annexure- VI)
- 2.Tender conditions duly signed in each page and enclosed in token of accepting the Tender conditions.
- 3.Tender conditions duly signed in each page
- 4.Demand Draft no. \_\_\_\_\_for Rs.10,00,000/- (Rupees Ten lakhs only), in favour of “Tamil Nadu Arasu Cable TV Corporation Limited”, Drawn on \_\_\_\_\_ Bank payable at Chennai, towards Earnest Money Deposit.
- 5.Authorization letter from the Agency for the person to sign the tender.
- 6.Details of the Tenderer (as per Annexure-V)
- 7.Average annual turnover statement duly certified by a Chartered Accountant (as per Annexure-VII).
- 8.Declaration for not having black listed either by TACTV or by any other Govt. agencies (as per Annexure-VIII).
- 9.Declaration for not having tampered the Tender documents downloaded from the websites [www.tactv.in](http://www.tactv.in) and [www.tenders.tn.gov.in](http://www.tenders.tn.gov.in) (Annexure-IX).
10. The copy of certificate of incorporation/registration.
11. Copy of Memorandum and Articles of Association.
12. Copy of Registered Partnership deed, in case of Partnership Firm.
13. Purchase Orders issued by the clients
14. Chennai Office Address or Declaration
15. Tie Up Letter with CAS provider
16. The Annual Report / certified copies of Balance Sheet, Profit & Loss statement along with schedules for the last 3 consecutive financial years i.e FY 2019-20,2020-21 & 2021-22

17. Land Border – Exemption certificate
18. Declaration for Bidder not having association
19. Copy of Registration certificate as a firm under GST.
20. Copy of PAN allotment Certificate/ PANCARD issued by Income Tax Department.
21. Notarized translated English version of the documents in a language other than English/Tamil, if any.

**Documents to be enclosed in Part-II**

1. A covering letter on the letter head addressed to The Managing Director, Tamilnadu Arasu Cable TV Corporation Limited (TACTV), No: 807, Anna Salai, 4<sup>th</sup> Floor, P.T.Lee. Chengalvarayan Trust Building, Chennai 600 002 (as per Annexure-XI)
2. Price Bid as per Annexure-XI of the Tender document.

**Note: Tenders submitted in unsealed cover would summarily be rejected.**

**SIGNATURE OF THE TENDERER (with seal and address)**

**LIST OF SERVICE CENTRES IN TAMILNADU**

<b>S.No.</b>	<b>Address</b>	<b>Contact Person</b>	<b>Phone/Mobile Number</b>

## SAMPLE SUBMISSION FORM

S.No	Item Description	Make	Model	Brochure/ Specification of the product	S.No of the item
1.					
2.					
3.					

*SIGNATURE OF THE TENDERER*

*(with seal and address)*

**CLARIFICATION ON TENDER DOCUMENT FORMAT**

<b>BIDDER'S REQUEST FOR CLARIFICATION</b>			
Name and Address of the Organization submitting request		Name and Position of Person submitting request	Contact Details of the Organization / Authorized Representative
			Tel:
			Fax:
			Email:
<b>S. No.</b>	<b>Reference(s) (Section, Page)</b>	<b>Content of Tender requiring Clarification</b>	<b>Points of clarification required</b>
1			
2			
3			

*SIGNATURE OF THE BIDDER*

*(with seal and address)*

**MODEL AGREEMENT FORM**

**AGREEMENT**

This Agreement made this \_\_\_<sup>th</sup> day of \_\_\_\_\_ 2023 BETWEEN TAMILNADU ARASU CABLE TV CORPORATION LIMITED, No.807, 4<sup>th</sup>Floor, PT Lee Chengalvarayan Naicker Building, Anna Salai, Chennai 600 002 , herein after referred to as “TACTV” on ONE PART and M/s. \_\_\_\_\_ (led consortium) represented by its \_\_\_\_\_, Thiru. \_\_\_\_\_, Son of Thiru. \_\_\_\_\_ having its registered office at \_\_\_\_\_ hereinafter called the “SUPPLIER” on the OTHER PART.

2. Whereas TACTV floated tenders to Provide The Set Top Boxes Along With Conditional Access System(CAS), to TACTV on Franchisee Model which were opened on \_\_\_\_\_.
3. And whereas Supplier, (the prime bidder of consortium comprising of M/s. \_\_\_\_\_, M/s. \_\_\_\_\_ and M/s. \_\_\_\_\_), has made an offer to tenders to Provide The Set Top Boxes Along With Conditional Access System(CAS), to TACTV on Franchisee Model on \_\_\_\_\_.
4. And whereas the Supplier has quoted to supply \_\_\_\_\_ Nos. of High Definition Set Top Boxes and Digital services for TACTV to Provide The Set Top Boxes Along With Conditional Access System(CAS), to TACTV on Franchisee Model as per configuration mentioned in the Tender Document No. \_\_\_\_\_
5. And whereas the Supplier after due negotiation agreed to undertake the contract to provide The Set Top Boxes Along With Conditional Access System(CAS), to TACTV on Franchisee Model
6. Whereas TACTV has accepted the negotiated Price of the Supplier vide letter No. \_\_\_\_\_ dated \_\_\_\_\_.
7. And whereas both TACTV and the Supplier have agreed to execute an agreement setting out the terms and conditions here under mentioned as agreed to by both the parties to this agreement.

## **NOW THIS DEED OF AGREEMENT WITNESSES:**

### **8. EMD and Security Deposit**

- a. The Supplier has remitted an amount of Rs.10,00,000/- (Rupees Ten Lakhs Only) towards Earnest Money Deposit (EMD) in the form of an Irrevocable Bank Guarantee issued by \_\_\_\_\_ Bank, \_\_\_\_\_ Branch (BG No. \_\_\_\_\_ valid till \_\_\_\_\_).
- b. The “Supplier” has remitted an amount of Rs. \_\_\_\_\_ /-(Rupees \_\_\_\_\_ only) towards Security Deposit (SD) after adjusting the Earnest Money Deposit of Rs.10,00,000/-, in the form of an Irrevocable Bank Guarantee issued by \_\_\_\_\_ Bank, \_\_\_\_\_ Branch (BG No. \_\_\_\_\_ valid till \_\_\_\_\_).
- c. Security Deposit will be returned only after completion of the contract/Warranty period.
- d. In case of non fulfillment of contract, Security Deposit will be forfeited.

### **9. Scope of Work**

- (a) TACTV intends to supply HD STB to its subscribers through a franchisee model. The successful bidder will have to supply 5,00,000 TACTV- labelled HD STB. The scope of supply for set top boxes shall include Conditional Access System (CAS) (The detailed specifications for set top boxes and CAS server is given in the Annexure-I (A). The list of already existing CAS working at TACTV is placed at Annexure-I (B). The successful bidder should ensure integration of STBs with the Head end equipment of TACTV.
- (b) The set top boxes, Servers and its accessories including remote control should have a replacement warranty for a period of *three* year from the date of supply of STBs at warehouse and acceptance by TACTV. During the warranty period, the bidder should also provide maintenance support for any other items supplied under the contract free of cost. The supplier should have physical arrangements in every taluk for extending service support.
- (c) The STBs are to be delivered at warehouses designated by TACTV at Chennai, Madurai, Coimbatore and Trichy and tracked as assigned to individual customer by entering SI No. through software application.
- (d) TACTV will pay a certain sum per month for each activated STB for 36 months. The payment will begin upon certification from the LCO of the activation of the subscriber in the portal.
- (e) The selected bidders have to provide the STBs along with the required Conditional Access System (CAS) and integrate the same with the existing SMS. The bidder can also use the existing CAS of TACTV installed at head end; but should ensure proper integration along with installation of perpetual license if any. The supplier should supply the required CAS system with all required licensing of the set top boxes. The Licensing should be perpetual for CAS and STB. The successful bidder will also have

to ensure that the OEMs of the CAS systems contractually supply the CAS system directly to TACTV and not to the successful bidder.

- (f) After three years, AMC will be paid to the OEM by TACTV if necessary, for any software upgrades only and not for any licensing. After the completion, the bidder should ensure that CAS/ STBs including perpetual licensing are handed over to TACTV after the completion of 3 years.
- (g) The bidder is required to install the required servers for Conditional Access System (CAS) at the head end of TACTV at Chennai and same should be integrated with the existing TACTV's multiplexers (Ericsson make). The CAS system should be chosen from the list of CAS providers provided at Annexure – I(B).
- (h) Access to all systems including CAS software, audits logs, servers, SMS applications and any other server which are interconnected system of the bidder shall be available directly to TACTV at all times (24 x 7). Further, no direct VPN access shall be permissible to CAS/SMS/Other system installed by the bidder for any reason and access if any shall be done through an intermediary access control system to ensure audit trail of all actions of the bidder.
- (i) In case there is need for change/transit of vendor from the bidder to another vendor for any reason, the bidder shall be responsible to provide all such informations /password/data/code/assistance there may be required for this purpose of TACTV and new vendor.
- (j) A separate Interconnect agreement will be executed by the TACTV with LCOs regarding supply of STBs.

**10. Monthly charges for supply of Set Top Box along with the conditional access System and integrate with existing SMS at TACTV's Head End.**

**(Excluding GST)**

S. No.	Description	EMI per active STB (in INR) per Month for 36 months contract period*
1.	Equated Monthly installment for supply of High Definition Set Top Boxes to TACTV (Inclusive of CAS)	

\*- This EMI shall include cost of STB, all charges towards provision for CAS server/CAS perpetual license/ software, CAS perpetual licensing Key for Set top Boxes and this shall make the CAS server/ CAS software perpetual property of TACTV for which no further fee shall be payable after 36 months of contract period. Any software upgraded or AMC after 3 years shall be at the sole discretion of TACTV, payable to tenderer or to the OEM if required.

## OPTIONAL COST

S. No.	Description	per active STB (in INR) /Per Year
1.	Cost towards Comprehensive replacement warranty of STBs/ for 4 <sup>th</sup> and 5 <sup>th</sup> year including software upgrades of CAS all hardware equipment's etc.	

### 11.WORK ORDER:

After execution of the agreement, Purchase order will be released to the items as and when it is required by the TACTV. The bidder should supply ordered STBs per the schedule given in clause 22. The headend equipment (CAS servers and accessories) shall be installed within two weeks of issue of P.O. Its shall be integrated with a single SMS.

### 12.SUPPLY SCHEDULE:

The Supplier should supply the ordered quantity of Set Top Boxes 50% of quantity in 45 days of P.O and balance 50% in 90 days of P.O

### 13.WARRANTY:

- (f) All items (STB, CAS servers, and other accessories) should have a replacement warranty for a period of *THREE* year from the date of installation of STBs at customer premises against manufacturing defects. During the warranty period, the bidder should also provide maintenance support for all items covered under the contract free of cost. Further, option to the LCO for extended warranty for 4<sup>nd</sup> / 5<sup>th</sup> year
- (g) However, the warranty will not extend to failures due to non-manufacturing defects such as water-logging, tampering by unauthorized person, failure due to high voltage or lightning, provided the same is proved beyond doubt.
- (h) The Supplier shall supply 2% additional quantity of the STBs, CASs, servers and other accessories as reserve for replacement, which will be kept at the designated warehouses of TACTV.
- (i) The Supplier should maintain toll free numbers @ one line for every 5 lakh Set Top Box supplied operating 24x7 to register service complaints.
- (j) The call centre shall be located in Chennai and handle complaints in both Tamil & English.

### 14.PAYMENT TERMS

The monthly payment for successful Set Top Box vendor will be paid by TACTV on activation of supplied STBs.

## **15. PENALTY**

- (a) Failure to comply with the stipulated schedule of supply will attract a penalty of 0.5% per week, on the unfulfilled portion of the contract up to a maximum of 5%. Delays beyond that period will result in cancellation of the orders.
- (b) The complaint raised by TACTV/LCO/subscribers has to be rectified as follows:
- i. LCOs will handle, if the fault is due to software installation and upgradation, troubleshooting like signal connection not proper, power adaptor not working, AV cable faulty.
  - ii. For other faults, Set top boxes will be brought to the service centres of the Supplier by LCOs. It has to be resolved within 24 hours by the supplier. If it is not possible to resolve within 24 hours the subscriber will be given spare set top boxes from the 2% reserve available with LCOs.
  - iii. The supplier has to rectify the faults within 96 hours from the time of receipt of the box from the LCO and in default provide a new STB at his own cost.
  - iv. Any failure to comply with the above time lines will attract a penalty of Rs.25 per set top box per day.

## **16. LIQUIDATED DAMAGES**

16.1. Notwithstanding anything to the contrary and without prejudice to the other rights and remedies available to TACTV including the right of termination of TACTV in case of breach of any obligations contained hereunder, if the successful bidder fails to supply of the STB as per the stipulated schedule or breaches any of its obligations hereunder, TACTV shall have the right of (a) deducting from the consideration payable by it for the supply of the aforesaid services.

16.2. The parties agree that TACTV may at its sole and absolute discretion determine the quantum of liquidated damages, per above, which determination shall be final and binding on the Supplier. TACTV may, without prejudice to its right to effect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the successful bidder in its hand in relation to this tender or any other contract between the parties (which includes TACTV's right to claim such amount against invoices raised by the Supplier or EMD or the Security Deposit submitted by the Supplier under this tender or any other contract) or which may become due to the Supplier. Any such recovery of liquidated damages shall not in any way relieve the successful bidder from any of its obligations to complete the scope of work or from any other obligation and liabilities under this tender. The Supplier shall have no rights or claims (including the right to challenge the determination or the realization of the liquidated damages) in this regard.

16.3. The liquidated damages payable hereunder is not a penalty but is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by TACTV on account of delay/breach on the part of the Supplier. The dates of delivery of the STBs as stipulated in the tender should be deemed to be the essence of the

contract and delivery must be completed not later than the dates specified herein. Any extensions granted by TACTV for any delays shall be subject to such additional terms as stipulated by TACTV, at its sole and absolute discretion.

16.4. No increases in price on account of any statutory increase in or fresh imposition of GST, or on account of any other taxes/ duty/ cess/ levy) leviable in respect of the work/services and incidental goods/ works which takes place after the original delivery date shall be admissible on such of the said work/services, including the quantity of STBs to be supplied as per bid as are delivered after the said original date.

## **17.TERMINATION OF THE Tender**

TACTV reserves right to terminate the Tender at any time during the validity period on account of non-fulfillment of contract on any count.

## **18.GENERAL CONDITIONS**

- (a) Conditions in any form will not be accepted.
- (b) Any notice regarding any problems, shall deemed to be sufficiently served, if given in writing at usual or last known place of business.
- (c) TACTV reserves the right to relax or waive or amend any of the conditions.
- (d) The right of final acceptance of the tender is entirely vested with the TACTV and TACTV reserves the right to accept or reject any or all the bidder in part or in totality or to negotiate with any or all the bidders or to withdraw/ cancel/ modify this tender without assigning any reason whatsoever.
- (e) There is no obligation on the part of TACTV to communicate with who are not awarded.
- (f) After acceptance of the contract by TACTV, the bidder will have no right to withdraw his contract.
- (g) The bidder shall NOT operate in another name unless a valid “name change certificate” is obtained from TACTV.
- (h) Any notice regarding any problems, to the bidder shall deemed to be sufficiently served, if given in writing at his usual or last known place of business through official e-mail id lastly disclosed to TACTV.
- (i) Any takeover/ change of management during the currency of contract should be intimated to TACTV within 15 days.
- (j) In the course of discussion and instruction, TACTV may disclose information of confidential and proprietary nature (whether identified explicitly as confidential or proprietary or otherwise) relating to its business model, subscribers, etc. to the Supplier. All such information shall be considered as confidential.

## **19.ASSIGNMENT**

(i)The Supplier shall not directly or indirectly transfer, assign the contract or any part, share or interest therein nor shall take a new partner without written consent of TACTV provided nevertheless any such consent shall not relieve the channel from any obligation, duty or responsibility under the contract.

## **20.ARBITRATION**

(b) In case of any dispute arising or pursuant to the bid submitted pursuant to this bid, including interpretation if any on the clauses of the bid or the agreement to be executed, either party shall immediately issue a written notice to the other party of the existence of the dispute providing the details of the dispute and such dispute shall be resolved by the parties mutually through their authorised representatives by acting in good faith.

(e) In the event of failure of such authorised personnel to resolve the dispute within a period of 30 days from the date of the aforesaid notice, the matter shall be referred by TACTV/bidder to a panel of three arbitrators, with TACTV and Supplier nominating one arbitrator each and the two arbitrators appointing a third arbitrator, who shall act as the chairperson of the arbitration panel. All the aforesaid arbitrators shall be selected from the panel of arbitrators approved by TACTV. In the event of failure of Supplier to appoint an arbitrator within a period of 15 days from, then such appointment shall be made in accordance with the provisions of the Arbitration and Conciliation Act, 1996.

(f) The remuneration for the arbitrator and other expenses shall be borne equally by TACTV and the Supplier. The arbitration to be conducted in terms hereof and the appointment of arbitrators shall be governed by the Arbitration and Conciliation Act, 1996.

(g) The venue of the Arbitration shall be at the Head office of the TACTV, Chennai and the proceedings will be in English. The decision of the Arbitrator shall be final and binding on both the parties to the Arbitration.

(h) The Arbitrator may with the mutual consent of the parties, extend the time for making the award. The award to be passed by the Arbitrator is enforceable in the Court at Chennai city only.

## **21.JURISDICTION OF THE COURT**

Any dispute arising out of non-fulfillment of any of the terms and conditions of this Tender /Agreement will be subject to the Chennai jurisdiction only. We agree to the above terms and conditions.

We agree to the above terms and conditions.

In witness whereof, Thiru. \_\_\_\_\_ on one part and Thiru.(Name), (Designation), M/s. \_\_\_\_\_ on the other part signed this agreement on the day, month and year first above.

Agreed by both the parties.

SUPPLIER

TACTV

WITNESSES: -

WITNESSES: -

1.

1.

2.

2.

**Bank Guarantee Format for Earnest Money Deposit  
(To be executed in Rs.100/- Stamp Paper)**

To

The Managing Director,  
Tamil Nadu Arasu Cable TV Corporation Limited (TACTV),  
No.807, 4<sup>th</sup>Floor, PT Lee Chengalvarayan Naicker Building,  
Anna Salai,  
Chennai 600 002

Bank Guarantee No:

Amount of Guarantee: Rs.

Guarantee covers from:

Last date for lodgement of claim:

WHEREAS Managing Director, Tamilnadu Arasu Cable TV Corporation, No.807, 4th Floor, PT Lee Chengalvarayan Naicker Building, Anna Salai, Chennai 600 002, Tamilnadu, India (herein after called “TACTV”) has floated Tender for supply /.....vide tender reference number \_\_\_\_\_ dated \_\_\_\_\_.

AND WHEREAS Consortium led by M/s (Name and Registered Office Address of the Prime Bidder) / M/s. (Name and Registered Office Address of the individual entity, in case of single bidder) (herein after called “Bidder”) is interested in participating in the tender.

AND WHEREAS as per the tender conditions, the bidder has to submit an irrevocable unconditional bank guarantee to the value of ..... from any Indian Nationalized/Scheduled Commercial Bank valid for a period of six months towards Earnest Money Deposit along with the bid.

We (Bank Name), having branch at (Branch Address) (hereinafter referred as the “Bank”) at the request of the bidder have agreed to give the bidder such a Bank Guarantee and we hereby absolutely, irrevocably and unconditionally undertake to guarantee you and keep you guaranteed to the extent of the sum of Rs...../- .....)and we undertake to pay TACTV upon your first written demand and without cavil or argument, any sum or sums within the limit of .....)as aforesaid without TACTV needing to prove or to show grounds or reasons for TACTV’s demand for the sum specified therein.

We, the Bank, further agree that change or addition to or other modification of the terms of the Tender or of the works to be performed there under or of any of the Contract documents which may be made between TACTV and the bidder shall not in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition and modification.

NOTWITHSTANDING ANYTHING CONTAINED HEREINABOVE:

Our liability under this guarantee is limited to ..... This Bank guarantee will be valid up to \_\_\_\_\_.2023.

Unless a demand is made on the Bank at (Bank Name), Branch at (Branch Address) in writing on or before \_\_.12.2022, all your rights under the Guarantee will be forfeited and we shall be relieved and discharged from all liabilities there under.

In witness whereof the Bank, through its authorized officer, has set its, hand and stamp on this ..... at \_\_\_\_\_.

Witness:

(Signature)  
(Name in Block Letters)

**GOVERNMENT OF  
TAMILNADU FINANCE  
(Salaries) DEPARTMENT**

**G.O.Ms.No.343, Dated 18<sup>th</sup> September 2020.**

(Saarvari, Purattasi-2, Thiruvalluvar Aandu 2051)

**ABSTRACT**

**Public Procurement** - Restriction on Public Procurement from bidders of certain countries under Rule 144 (xi) of General Financial Rules (GFRs) - amended by Government of India - adopted by the State Government under the Tamil Nadu

---

Transparency in Tenders Act, 1998 - Orders - Issued.

**Read the following :-**

1. From the Secretary (Expenditure), Ministry of Finance, Department of Expenditure, Government of India, Letter No.F-6/18/2019-PPD, dated : 23.07.2020.
2. Office Memorandum F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division, New Delhi, dated : 23.07.2020.
3. Order (Public Procurement.1) Ministry of Finance, Department of Expenditure, Public Procurement Division, New Delhi, dated : 23.07.2020.
4. Order (Public Procurement.2) Ministry of Finance, Department of Expenditure, Public Procurement Division, New Delhi, dated : 23.07.2020.

----

**ORDER :**

In the letter first read above, Government of India stated that, the Government of India's General Financial Rules (GFRs), 2017 have been amended to provide for restrictions on public procurement from bidders from a country or countries or class of countries on grounds of defence of India or matters directly or indirectly related thereto, including national security, and an order has been issued requiring prior registration of bidders from countries sharing a land border with India. Accordingly, Government of India has directed the State Governments to implement the said orders, in respect of procurement done by the State Government and its undertakings and projects. The letter further clarifies that this direction may be treated to be have been issued under Article 257 (1) of the Constitution.

The Department of Expenditure had earlier issued an order (Public Procurement

No.1) dated 23<sup>rd</sup> July 2020 under Rule 144 (xi) vide reference F.No.6/18/2019-PPD, wherein restrictions have been laid for procurement under Rule 144 (xi), General Financial Rules (GFRs),2017.

2. The Department of Expenditure had earlier issued an order (Public Procurement No.2) dated 23<sup>rd</sup> July 2020 under Rule 144, wherein certain exclusions have been provided from these restrictions under Rule 144 (xi), General Financial Rules (GFRs), 2017.
3. The Government of India has issued the above said restrictions in relation to defence of India and National Security, which is listed as item No.1 of the Union List under the Seventh Schedule of the Constitution of India. Since the direction has been issued under Article 257 (1) of the Constitution of India, under which the Union Government can issuedirections on matters pertaining to the executive power of the Union, the State Government is bound to implement such directions issued under the said Article.
4. Based on this direction issued by the Government of India under Article 257 (1) of the Constitution of India and the Order issued under the rule 144 (xi), General Financial Rules (GFRs), 2017 the State Government of Tamil Nadu, after careful consideration, have decided to issue the following orders for effecting the implementation of the said Government of India"s orders :-
  - i) to implement the Order (Public Procurement No.1) and Order (Public Procurement No.2) dated 23<sup>rd</sup> July 2020, (copy enclosed) under section 21 of Tamil Nadu Transparency in Tenders Act, 1998 in respect of all procurements done by the State Government and the procuring entities under the schedule to the Act, including its Public Sector Undertakings (PSUs), local bodies in Tamil Nadu and all agencies controlled by the State Government as well as Public Private Partnership (PPP) projects receiving financial support from the State Government or its Public Sector Undertakings (PSUs).
  - ii) A Registration Committee shall be constituted under the administrative control of the Industries Department for carrying out all the functions assigned to the Department of Industrial Policy and Internal Trade (DPIIT) in respect of procurement done by the State Government as per the Order (Public Procurement No.1) dated 23<sup>rd</sup> July 2020.
  - iii) The Registration Committee shall consist of the following members:-

Managing Director & Chief Executive Officer, Guidance (as Chairman)

- a) Additional Chief Secretary to Government (Finance), or his representative.
  - b) Additional Chief Secretary to Government (Information Technology) or his representative.
  - c) Principal Secretary to Government (Public Works Department) or his representative.
  - d) Industries Commissioner and Director of Industries and Commerce.
- iv) This Registration Committee so constituted shall have the following functions:-
- a) Committee shall lay down the method of application, format etc., for such bidders as stated in para 1 of the said Government of India Office Memorandum (Public Procurement No.1)
  - b) On receipt of application seeking registration, the Committee shall first seek political clearance from the Ministry of External Affairs and security clearance from the Ministry of Home Affairs.
  - c) Registration shall be given only after political and security clearances have both been received, and the registration of such bidder shall be for all kinds of tender or for a specified type of goods or services, and shall be for a specified or unspecified duration of time, as deemed fit.
  - d) The Committee shall suspend or cancel the registration already granted, if there is sufficient cause.
  - e) The Committee shall send periodic reports on acceptance/refusal of registration to the Cabinet Secretariat, Government of India and to the chief Secretary, Government of Tamil Nadu.
  - f) Any other function prescribed by the State Government or by the Government of India on the said subject.

5. The Office Memorandum and orders of Government of India, second to fourth read above are annexed to this order.

**(BY ORDER OF THE GOVERNOR)**

**S. KRISHNAN**

**ADDITIONAL CHIEF SECRETARY TO GOVERNMENT**

**Requirement of Registration as specified in Office Memorandum  
F.No:6/18/2019-PPD, issued by Ministry of Finance, Department of  
Expenditure, Public Procurement Division Government of India dated 23<sup>rd</sup> July  
2020**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. “Bidder” (including the term „tenderer“, „consultant“ or „service provider“ in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. “Bidder from a country which shares a land border with India” for the purpose of this Order means:-
  - a. An entity incorporated, established or registered in such a country; or
  - b. A subsidiary of an entity incorporated, established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose *beneficial owner* is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (iii) above will be as under :
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who Explanation-
    - a. “Controlling ownership interest” means ownership of or entitlement to more than twenty-five percent. of shares or capital or profits of the company;
    - b. “Control” shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
  2. In case of a partnership firm, the beneficial owner is the natural person(s) who,

whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
  4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
  5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. *[To be inserted in tenders for Works contracts, including Turnkey contracts]*  
The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."*

Model Certificate for Tender

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority, I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"*

Model Certificate for Tenders for Works involving possibility of sub-contracting

*"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors*

*from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*

**Model Certificate for GeM:**

*“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”*