

**AAAI and TAM bring you**  
**FAQs on CAS**

**[Third part of the India PeopleMeter Update series]**

Table of contents

<u>No.</u>	<u>Title</u>	<u>Page No.</u>
1	<b>Introduction</b>	2
2	<b>FAQ</b>	
	a) CAS system - Basics	4
	b) Zone proportion (table 1)	6
	c) CAS Establishment survey	7
	d) STB as an audience measurement device	9
	d) Peoplemeter technology (Diagrams 1 and 2 : Pre and Post CAS Peoplemeter installation)	11
3	<b>Appendices</b>	
	1. Important definitions	15
	2. Important point in the bill	17
	3. Zone 1 areas	18

Note : This is intended to be a printed document. The page numbers as printed and as seen in the table above would therefore be different from the system generated page numbers when viewed electronically.

## **Introduction**

Ever since the CAS bill was passed in the parliament in December 2002, there have been various changes in its form and implication. Through these developments, TAM has been providing the industry the latest knowledge on CAS and its impact by way of newsletters and presentations.

In the course of our interactions, we were requested by AAAI (the Association of Advertising Agencies of India) to bring out a document that could serve as a ready reckoner to the most common questions that one faces on CAS and its measurement by TAM.

This Update, part of the India Peoplemeter Update series, is meant to confirm the various processes that TAM will undertake as part of measuring the new television world brought about by CAS.

Since there were new developments every day on CAS, in order to bring you the latest we decided to release this document on September 1<sup>st</sup>. This would give us a chance to review the markets' reaction to CAS. The latest information as of now that we have from the four metros is:

**1) Mumbai – the Zone 1 areas continue to receive pay channels without a Set-top box (STB). The decision on whether Mumbai is officially going to be kept off the CAS implementation or not, is going to be taken only after the ongoing Ganesh Chaturthi celebrations.**

**2) Kolkata – the situation remains uncertain with the state government asking for some clarifications on CAS implementation from the central government. The MSOs have been asked to defer the roll-out till such time as these clarifications arrive (which is ‘at least 2-3 days’)**

**3) Chennai – while CAS is on schedule here, there is little or no demand for STBs as yet**

**4) Delhi – is officially ‘exempt’ from CAS implementation.**

We expect that this update will extend to further versions as we keep getting more questions. Please feel free to contact any member of the TAM team for any clarification that you might need on CAS. Our helpline number is +91 022 23718762. You could also log-on to our website and follow the below link to contact any of our representatives by e-mail :

<http://www.tamindia.com/contact.html>

**Q.1 How does the CAS system really work?**

The central concept of CAS is the ability of the cable operator to remotely manage channel access to a subscriber.

At the heart of the system lies:

1) The Set-top box each of which has a unique ID#. Each STB is equipped with a data receiver and microprocessor. Data streams generated at the cable operator headend are received by the STB which receives both scrambled (Pay) and unscrambled (FTA) channels. The microprocessor compares the ID assigned to the box to the ID sent by the data stream. When the ID #s match, it starts processing the information received – for instance, if the STB is tuned to a channel that has an authorisation tag, it decodes it and the home can then view the channel. The headend, here, does not need to receive any authorisation or confirmation signal back from the set-top boxes.

2) The Subscriber Management System (SMS) manages the subscription details. The SMS software generates subscriber-wise details on channels subscribed to and in effect authorises or deauthorises each customer's set-top box (STB).

Since the whole concept is that of remotely controlling access, there is no need of the physical presence of the cable operator to turn on or off a channel – this is something very important to understand since there is a misconception that visits by the cable operator will be very frequent. While initially this may be true to sort out hardware problems, once the system stabilizes, visits by the local operator are restricted to collecting the monthly subscription

**Q.2 Does everyone have to buy a set-top box (STB) to view C&S channels?**

No. A home needs an STB only to watch pay channels. It can continue to watch free-to-air (FTA) channels without the STB with the regular C&S connection.

**Q.3 Is it possible for a home to continue to receive pay channels without the STB?**

On implementation of CAS, by law, any cable operator delivering a pay channel through a non-addressable system, will be jailed. Having said that in countries where addressable systems exist, there are individuals engaged in 'hacking' who continue to watch channels without paying for them - illegally of course.

**Q.4 What are the areas that come under the ambit of CAS?**

- a) The implementation of CAS is restricted in the first stage to the top 4 metros viz. Mumbai, Delhi, Kolkata and Chennai
- b) Each metro has been further sub-divided into 4 zones and the implementation is to begin with zone 1 in each area.
- c) The areas that make up each zone is given in appendix 1

**Q.4 When will CAS be implemented?**

- a) The original date of implementation was fixed for July 15<sup>th</sup> across all 4 metros but has now been postponed to September 1<sup>st</sup>
- b) The implementation of the Delhi roll-out has been deferred till after the assembly elections scheduled in November
- c) There is still some uncertainty in the roll-out timetable - while the initial announcements did say that each zone would get covered month-by-month, there has been no official release on this. It is expected

that the roll-out on the other zones will be dependent on the success of the roll-out in zone 1

**Q.5 What is the proportion of TV homes that comes under Zone 1?**

As can be seen in the table below, Zone 1 accounts for a little less than a quarter of the TV owning universe. This figure is an average of the four metros with Chennai being a major contributor.

The non-Chennai proportion drops to 17% of the TV owning universe.

The city definitions used in the table is the Urban Agglomeration (with the metro area as the subset).

This is the definition that TAM uses in defining the market limits.

<b>Table 1</b>						
<b>CAS Zone 1 TV owning estimates</b>						
Metro	All City data...(figures in 000s)			Zone 1 data...		
	Total HHlds	TV Own.HHlds	C&S HHlds	TV Own. HHlds (000s)	C&S HHlds (000s)	TV Own. Proportion. (%)
Mumbai	3949	3431	2806	417	341	12
Delhi	2643	2350	1539	489	320	21
Calcutta	2582	1978	1221	316	195	16
Chennai	1570	1396	1140	989	808	71
<b>Total</b>	<b>10744</b>	<b>9155</b>	<b>6706</b>	<b>2211</b>	<b>1664</b>	<b>24</b>

*Note :*

1. 'All City' figures based on NRS 2002
2. Zone 1 estimates arrived by a combination of TAM field work, electoral/municipal information  
*(based on Census '91 and NRS 2002)*
3. C&S HHlds in Zone 1 based on C&S penetration of entire city
4. Preliminary estimates and subject to change

**Q.6 How will TAM ensure representation of CAS homes within the existing sample?**

Before getting into the specifics, it is well worth remembering that the TAM sample is representative of the TV owning universe. Thus TAM confidently expects that the rate of adoption of CAS in the universe will be matched by the rate of adoption of CAS within the panel – a self-balance. It is also important to note that geographic dispersion is already a parameter by which TAM recruits homes and hence the number of

homes in the TAM panel in zone 1 is proportionate to the universe of TV homes in zone 1.

However, as a confirmatory study, TAM has also commissioned a CAS Establishment Survey (CASES) to determine the rate of penetration of CAS, independent of the TAM panel.

CASES will be done at regular intervals, initially monthly. The project will be undertaken by ACNielsen and IMRB International. The three broad areas captured by CAS will be:

- a) CAS Penetration levels - STB already installed
- b) Profile of CAS adopters eg. SEC
- c) Intention to get an STB installed

The TAM panel will be aligned to the CASES results.

### **Q.7 Is CAS going to be a parameter for panel recruitment?**

The parameters used by TAM in recruiting panel home are called control parameters.

#### Concept of a control parameter:

TAM currently uses a range of parameters to ensure that the proportions of various demographics are in line with either those of the universe or those that are deliberately chosen to be disproportionate to the universe. For eg. a deliberate oversampling as in case of SEC A, where the proportion of homes in the sample will be much greater than that of the universe. These parameters are called Control Parameters.

Control parameters are further divided as Primary and Secondary parameters.

Primary control parameters are interlocking controls: here it is ensured that the totals match not only on an aggregate basis but on an interlocking basis. Thus, we need to not only ensure 25% of the panel are SEC A homes (SEC A being oversampled) but also ensure that the proportion of, for instance, "SEC A x C&S x Household size upto 4

individuals x preference to watch Marathi programmes” matches that of the universe.

Secondary control parameters are those which are matched on an aggregate level in a market. Thus if 30% of Bombay’s population lives beyond the municipal limits, the sample would also follow the same distribution.

<b><u>Primary Controls</u></b>	<b><u>Secondary Controls</u></b>
<ul style="list-style-type: none"> <li>♦ SEC</li> <li>♦ Access (C&amp;S/Non-C&amp;S)</li> <li>♦ Household size</li> <li>♦ Preferred language of viewing</li> <li>♦ Claimed weight of viewing (within 8 cells)</li> </ul>	<ul style="list-style-type: none"> <li>♦ Geographical dispersion</li> <li>♦ TV type (B&amp;W, Colour)</li> <li>♦ Remote Ownership</li> <li>♦ SEC A1/A2</li> </ul>

CAS as a control parameter

Having explained control parameters, in a CAS scenario the controls will remain just as above, with the only exception being the inclusion of CAS as an additional control. This is going to be done as follows:

- a) Initially TAM will use CAS as a secondary control – which also ties in with the fact that CAS is going to be introduced zone-wise and geographic dispersion is already a control
- b) In the next stage, depending on CAS penetration, use it as an 8 cell control (similar to Claimed Weight of Viewing) and finally,
- c) As a full-fledged primary control as an access variable (similar to C&S/Non-C&S). This again depends on the penetration levels achieved.

**Q.8 Can users run analysis by taking CAS as a separate variable similar to C&S/Non-C&S?**

One of the key aspects that determine this is the penetration of CAS. The idea is to have a sufficient mass of CAS homes within the TAM sample to compute ratings. At this stage of course, one doesn't quite know the adoption rate, but given that the roll-out is only zonal and the proportion of homes within the zone 1 is also not quite sizeable, we might see CAS as a reporting variable only at a later stage.

**Q.9 How are homes with multi-TV sets measured in a situation where one TV may be connected to an STB and the other not-connected to one?**

This is similar to a situation currently where a home may have two TV sets, one having a cable connection and the other receiving only terrestrial channels (DD). In this case, the home is classified as a C&S home with Peplemeters attached to both TV sets to monitor TV viewing from both sets.

In a CAS scenario with even one of the TV sets attached to a STB, the home is treated as a CAS home. Other TV sets in the home will however have Peplemeters attached to the sets and viewing monitored from all sets.

**Q.10 There are reports that the STB can function as a Peplemeter. Since data would then be gathered from more homes (all homes with STBs) wouldn't the data be more robust and representative than the TAM data?**

There have been many experiments the world over on using the STB as an audience measurement device. The results however show that the measurement can at best be rough in nature due to several reasons:

1) Home vs Individual viewership

The STB can record viewership only at the home level. In other words, it cannot tell you how many people are there in front of the television or who they are. All it can tell you is that the STB is 'On' from and to, a certain time which leads us to the next problem...

2) Is the TV 'On' or 'Off' ?

As mentioned in the above point, the STB data tells you how much time the STB was 'On' - **it however does not tell you whether the TV itself was 'On' or 'Off'.**

So a home (as many who have had convertors in their homes would testify) could put off the TV set after viewing but the STB still remains on. This means that the TV set would be 'Off' but the STB still 'On' and **would record a viewing in progress even while the TV set is 'Off'!**

4) Respondent privacy

In all surveys undertaken by professional market researchers, the privacy of the respondent is of paramount importance. It is unfortunate that while there have been many comments in the press about measuring audiences through STBs, no single stakeholder in common knowledge has mentioned the privacy aspect. So for instance, there would be many homes who do not wish their viewing to be captured. It is important to keep this in mind when the potential number of data-providing STB homes is mentioned.

5) Demographics

It is still unclear how the home demographics would be collected, how frequently they would be updated and importantly how it would be merged with the home viewing data in the case of STB data.

#### 5) Sophistication

There are a range of statistical rules, computational procedures and validation processes that the TAM data passes through to reach the user. For instance, one of the most important procedures is that of weighting where the TAM panel data is projected onto the universe to reflect what the universe – your select TG – watches. These are sophisticated processes and require domain expertise. Researchers the world over spend a huge amount of time and money developing practices based on sound statistical theory. One does not know how an STB-based data provider will conduct such procedures. This especially since procedures such as weighting requires knowledge of a known universe by demographics (in TAMs case, the NRS). This in fact, leads us to the next point...

#### 5) The Holistic picture

Even if all the above points are ignored with the city split between operators, how can any one STB-based data source reflect the viewership of the market as a whole? This more so with a zonal roll-out.

#### 6) What is the universe?

Since homes that choose to watch only FTA channels do not need an STB, all data that is gathered forms only a partial part of the entire C&S universe.

#### **Q.11 Is TAM technologically geared to measure CAS?**

TAM uses the same technology that is used in more than 30 countries worldwide, most of whom already have a CAS system in existence.

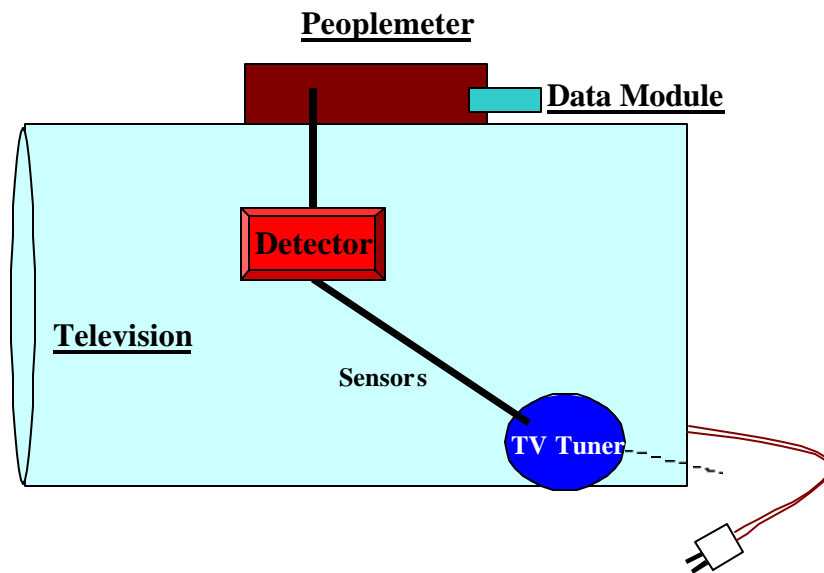
The TAM technology is a frequency matching technology. This means that the Peoplemeter records the frequency of the channel viewed. In

addition the home is provided with a special handset to record who is viewing the channel.

Now each time someone changes a channel, the Tuner of the TV set 'fixes' onto the particular frequency. The detector of the Peoplemeter set-up transmits this frequency, which it gets from the sensors, to the Peoplemeter, shown in the diagram below as residing on top of the TV set.

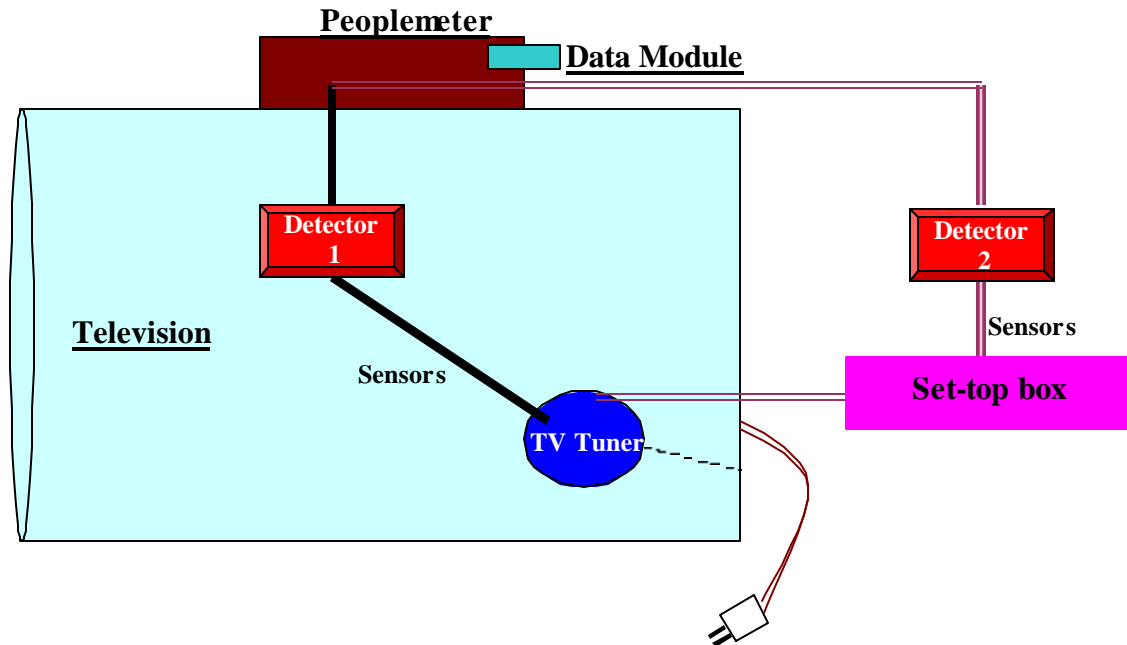
The data is stored as encrypted data in the data module and is collected every week by the Tam data collector.

**Diagram 1 : Pre-CAS Peoplemeter installation**



Now, in a post-CAS scenario, the addition is that of the STB and the only change is a slight detour that the connections take as seen in the representation seen in the next page ...

**Diagram 2 : Post-CAS Peoplemeter installation**



Here, a separate detector has been provided to monitor the STB and pass the channel information onto the Peoplemeter.

The technology is compatible with both analog and digital types of STBs. The advantage that TAM has is the network of international experts belonging to its parent companies – NMR and KMR – where the concept of an STB has been around for years now.

TAM has also tested and kept ready another non-intrusive technology that can be used as an alternate. Details of this technology will be unveiled in the coming weeks.

## **Appendices**

## **Appendix 1. Important Definitions**

### 1) Basic Service Tier

...means a package of free-to-air channels provided by a cable operator, for a single price to the subscribers of the area in which his cable television network is providing service and such channels are receivable for viewing by the subscribers on the receiver set of a type existing immediately before the commencement of the Cable Television Network (Regulation) Amendment Act, 2002 without any addressable system attached to such receiver set in any manner...

### 2) Addressable System

... means an electronic device or more than one electronic devices put in an integrated system through which signals of Cable Television Network can be sent in encrypted or unencrypted form, which can be decoded by the device or devices at the premises of the subscriber within the limits of authorisation made, on the choice and request of such subscribers, by the cable operator to the subscriber...

### 3) Encrypted

...in respect of a signal of cable television network means the changing of such signals in a systematic way so that the signal would be unintelligible without a suitable receiving equipment and the expression “unencrypted” shall be construed accordingly ...

4) A Pay Channel

...in respect of a cable television network, means a channel the reception of which by the subscriber would require the use of an addressable system to be attached to this receiver set. In effect, a pay channel is a channel for which the customer is asked to pay for that specific channel.

5) Free-to-air channel

...in respect of a cable television network means a channel, the reception of which would not require the use of an addressable system to be attached with the receiver set of the subscriber...

**Appendix 2 : Important points in The Cable Television Networks  
(regulation) amendment bill, 2002**

1) Every cable operator shall publicise, in the prescribed manner, to the subscribers the subscription rates and the periodic intervals after which such subscriptions are payable for receiving each pay channel provided by such cable operator.

2) The cable operator shall not require any subscriber to have a receiver set of a particular type to receive signals of cable television network provided that the customer shall use an addressable system to be attached to his receiver set for receiving programmes transmitted on pay channel.

3) Every cable operator shall submit a report to the Central Government in the prescribed form and manner containing the information regarding

i) The number of total subscribers:

ii) Subscription rates

iii) Number of subscribers receiving programmes transmitted in basic service tier or particular programme or set of programmes transmitted on pay channel

...in respect of cable services provided by such cable operator through a cable television network and such report shall be submitted periodically at such intervals as may be prescribed and shall also contain the rate of amount, if any, payable by the cable operator to any broadcaster

### **Appendix 3 : Zone 1 areas**

#### i) Municipal Council of Greater Mumbai

The area to the West of the main line of Central Railway between Chatrapathi Shivaji Terminus (CST) station and Sion Railway Station, including the area from Navy Nagar (in the south) upto the CST railway Station (in the north), including Ballard Estate, bound by the Sion-Bandra Link Road and the Mahim Causeway on the northern side and includes the areas Colaba, RC Church, World Trade Centre, Maker Towers, Nariman Point, Cuffe Parade, Fort, Fountain, Bombay Stock Market, Prince of Wales Museum, CIDCO, Marine Drive Gateway of India, Horniman Circle, Reserve Bank of India, Churchgate, Ballard Estate, Town Hall, Shahid Bhagat Singh Road, Madam Cama Road, Veer Nariman Road, Mahatma Gandhi Road, Dr. Dadabhai Navroji Marg, Marine Lines, Charni Road, Kalbadevi, Thakurdwar, Girgaum, Walkeshwar Road, Nepensea Road, Cumbala Hill, Malabar Hill, Grant Road, Khetwadi, Breach Candy, Peddar Road, Hajiali, Mahalaxmi, Worli, Tardeo, Altomout Road, Dr. Dadasheb Bhadkamkar Marg, Sardar Vallabhai Patel Road, Saat Rasta, Lala Lajpatrai Marg, Mahalakshmi Race Course, Dr. Annie Besant Marg, N.M. Joshi Marg, Gokhale Road, Dr. Moses Road, Prabhadevi, Dadar (West), Shivaji Park, Cadell Road, Lady Jamshedji Road, Sitladevi Road, Mahim, Gen Arunkumar Vidya Marg.

#### (ii) National Capital Territory of Delhi

The area covering Chanakyapuri, Motibagh, Vasant Vihar, Safderjung, Vasantkunj, Chattarpur, Madangir, Kalkaji, Sarita Vihar, Maharani Bagh; bounded in the East by Yamuna River (from Delhi-Haryana border near Badarpur to Bhairon Marg; bounded in the West by Wellington

Crescent, Sardar Patel Marg, NH8 (from Dhaulakuan to Gurgaon Border); bounded in the South by Delhi-Haryana border (from Gurgaon to Badarpur and Yamuna river); bounded in the North by Bhairon Marg, Rajpath (from National Stadium to Vijay Chowk), Parliament House, Talkatora Road upto Ram Manohar Lohia Hospital.

(iii) Kolkata Metropolitan Area

The areas whose northern boundary is the eastern bank of the river Hooghly up to the confluence with Tolly's Nalla on the right; eastern boundary is the line along the western bank of Tolly's Nalla starting from its confluence with river Hooghly in the north, running south down along the Tolly's Nalla/Kaorapukur Khal to the mouzas of Magurkhali; Southern Boundary is along the line following the southern boundaries of mouzas Magurkhali, Ramjibanpur, Sajnaberia, Gopalnagar, Kalua, Hanspukuria area within Police Station Behala proceeding towards the southern boundaries of mouzas Kalagachhia, Sankharipota, Naoabad, Khanberia, Chandigar, Shibhugli and Rameshwarpur within Police Station Maheshtola.

Thereafter the same line following the southern boundaries of mouzas Betuabi Rajarampur, Santoshpur, Uttar Raipur, Benjan Haria Charial, Eastern and southern mouzas of Nischintapur and southern boundaries of mouzas of Uttar Ramchandrapur, Raghunathpur, Rajarampur, Achhipur within Police Station Budge Budge.

And then proceeding further westward in a straight line and meeting the western boundary-line of District 24 Parganas in the river Hooghly; and western boundary is the line along the east bank of river Hooghly starting from the confluence of Tolly's Nalla running south-south-west where it meets the line of District 24 Parganas in the river Hooghly.

(iv) Chennai - Chennai Metropolitan area.