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# Arbitron eBook Reference Guide Understanding and Using Radio Audience Estimates



# Understanding and Using Radio Audience Estimates

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This guide is designed to help you get the most value from the listening estimates found in the Arbitron eBook<sup>SM</sup>. As an online software service, the Arbitron eBook provides fast, convenient access to your Arbitron ratings data subscription wherever you have an Internet connection.

Arbitron clients are welcome to download this publication at my.arbitron.com, in the "Survey & Market Info" section.

### **Expanded Information, Easier-to-Use**

The Arbitron eBook provides all the data found previously in the printed book plus a lot more. The Arbitron eBook includes an expanded range of demos and dayparts as well as in-depth Metro Market Profile information. And since it is a software service, the Arbitron eBook gives you greater control over how ratings data are viewed than the static, black- and white-pages of the traditional printed book. The Arbitron eBook has been designed in a printer-friendly format, making it easy for you to save reports as a PDF for later printing. If you need, you can even save the complete report with a single click.

For questions and more information on the Arbitron eBook, please contact your Arbitron representative.

Users of this report should become familiar with the Arbitron Description of Methodology. Instructions for estimating reliability and effective sample bases for this report can be found in the "Methodology" section of the Arbitron eBook Web site.

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# The Basic Estimate Types

Making the most out of your Arbitron Radio Market Report is easy once you understand the three basic audience estimates reported. They are:

- Persons estimates: the estimated *number* of persons listening
- Rating: the *percent* of listeners in the universe of the measured survey area population
- Share: the *percent* of one station's total daypart estimated listening audience

Each Radio Market Report covers either radio listening during a four-week survey period in markets measured with the Portable People  $Meter^{TM}$  (PPM<sup>TM</sup>) or a 12-week survey period in Diary markets. Every estimate found in the book is given for a particular survey area (or geography), a demographic (sex and age) and a time period (or daypart).

Persons and Rating estimates are produced for both Average Quarter-Hour (AQH) and Cume; Share estimates apply to AQH only.

### Estimates Reported: PPM and Diary

### 1. Average Quarter-Hour Persons, Ratings and Shares

**Average Quarter-Hour Persons** identifies the average number of persons estimated to have listened to a station for a minimum of five minutes during any quarterhour in a time period. The Average Quarter-Hour Persons estimate helps to determine the audience and cost of a spot schedule rotating within a time period.

### Example

WAAA has an Average Quarter-Hour Persons audience of 9,000 for Saturday 6AM-10AM. This means that an average of 9,000 people are estimated to have listened to WAAA during any quarter-hour from 6AM-6:15AM to 9:45AM-10AM during the survey period. By buying one spot on WAAA during any quarter-hour during this daypart, an advertiser would reach an estimated average audience of 9,000 people.

Average Quarter-Hour Rating expresses the estimated number of listeners (Average Quarter-Hour Persons) as a percentage of the survey area population. The Average Quarter-Hour Rating is calculated by dividing the number of Average Quarter-Hour Persons by the survey area population within the same sex/ age group and multiplying by 100.

### Example

Since the Average Quarter-Hour Persons estimate for WAAA is 9,000 for Men 18-49 and the Metro population for this sex/age group is 175,600, the Average Quarter-Hour Rating for WAAA is 5.1.

$$\frac{9,000}{175,600} \times 100 = 5.1$$

Average Quarter-Hour Share is the percent of the total listening audience tuned in to each station. This estimate reveals the share of listening each station captures out of the total listening in the survey area.

### **Example**

The total number of Persons 18-49 listening to radio in the Metro is 40,300 AQH Persons during Monday-Friday 6AM-10AM. With its AQH Persons audience of 9,000, WAAA's share of this listening would be 22.3%.

Average Quarter-Hour Share does not reveal the absolute size of a station's audience. WBBB has a 15% share in the morning and a 20% share at night. But that 15% share in the morning may actually represent a greater number of listeners than a 20% share at night.

Example			
·	Total Listeners to All Stations	WBBB Share	WBBB Audience
AM	25,000	15%	3,750
PM	15,000	20%	3,000

# The Basic Estimate Types

**AQH Composition:** The size of a station's AQH target audience relative to its total AQH audience.

To obtain AQH audience composition, divide target AQH Persons by total P6+ AQH Persons.

```
Target AQH Persons

Total P6+ AQH

Audience = AQH Composition
```

### 2. Cume Persons and Ratings

**Average Daily Cume Composition:** The size of an encoded station's Cume target audience relative to its total Cume audience.

How it is used: This calculation is similar to AQH and provides an indication of how efficiently a radio station is reaching its target audience.

Average Daily Cume Composition is calculated by dividing the target Cume Persons by total P6+ Cume Persons.

**Cume Duplication:** This estimate answers the question, "What percentage of my station's audience also listens to another station?" It is the percentage of Cume Persons for one station that was exposed to a second station.

How it is used: In selling advertising, stations that duplicate the least will add the most reach to a radio schedule while stations that share the most audience will yield a higher schedule frequency.

Cume Persons identifies the estimated number of different people who listened to a station for a minimum of five minutes in a quarter-hour within a reported daypart. No matter how long the listening occurred, each person is counted *only once*. Cume is also referred to as unduplicated audience, reach or circulation.

**Cume Rating** is the number of Cume Persons expressed as a percentage of the survey population. To calculate Cume Ratings:

$$\frac{\text{Cume Persons}}{\text{Pop. for sex/age group}} \times 100 = \text{Cume Rating}$$

### Example

The Cume Persons estimate for WCCC is 75,000 for Men 18-49. The Metro population for the same sex/age group is 175,600. The Cume Rating for WCCC is 42.7. This means that almost 43% of all Men 18-49 in the Metro area listen to WCCC.

**Exclusive Cume Persons** is the estimated number of Cume Persons in the survey area who listened to only one station within a reported daypart.

# The Basic Estimate Types

### 3. Time Spent Listening (TSL)

An estimate of the number of quarter-hours the average person spends listening during a specified time period. Although TSL is calculated using quarter-hours, it is usually converted to hours and minutes.

To express TSL in hours and minutes:

$$\frac{\text{TSL (in quarter-hours)}}{4} = \underbrace{\text{HH.XX}}_{\text{AM. (TSL in decimal hours)}} \\ + \underbrace{\text{XX hours}}_{\text{MM minutes}}$$

$$+ \underbrace{\text{HH:MM (TSL in hours and minutes)}}_{\text{HH:MM (TSL in hours and minutes)}}$$

The chart below shows the estimate types and the geographies for which they are reported in your *Radio Market Report*.

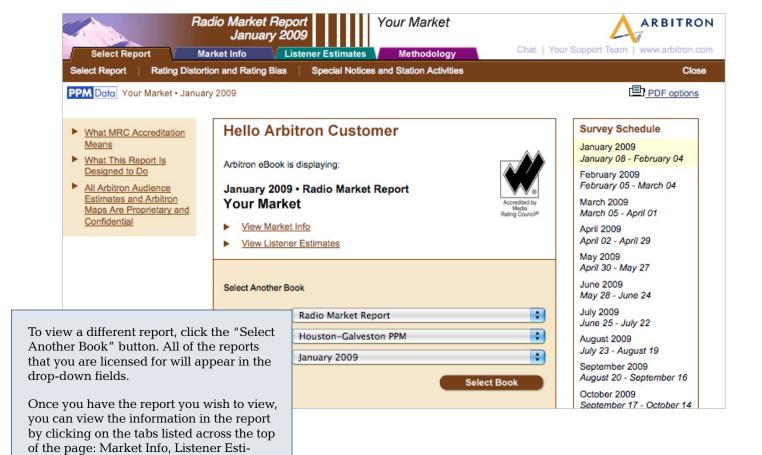
Estimate Types	Metro	Diary TSA*	DMA®
AQH Persons	х	х	х
AQH Rating	x		x
AQH Share	x		
Cume Persons	x	x	x
Cume Rating	x		
Exclusive Cume Persons	x		
Time Spent Listening	x		

<sup>\*</sup> Diary only. (Exception: Houston-Galveston RMR report includes DMA.)

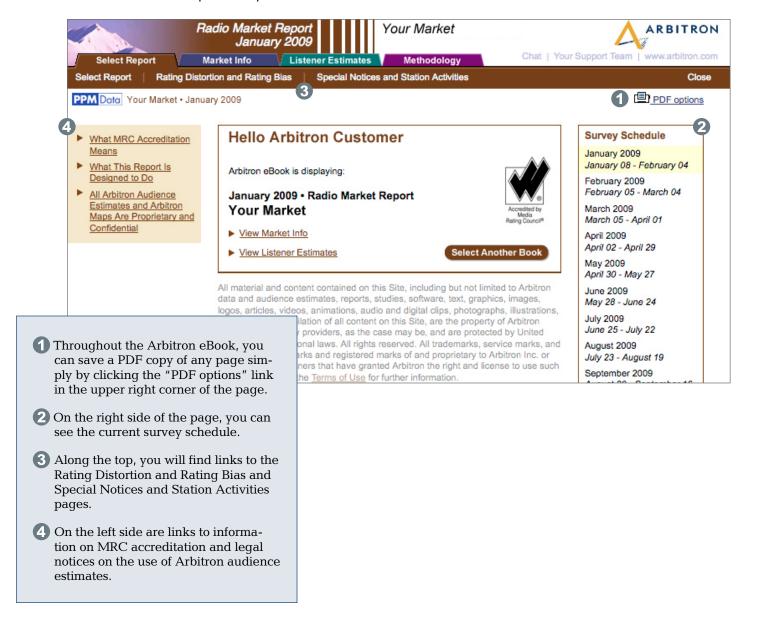
### Welcome Screen

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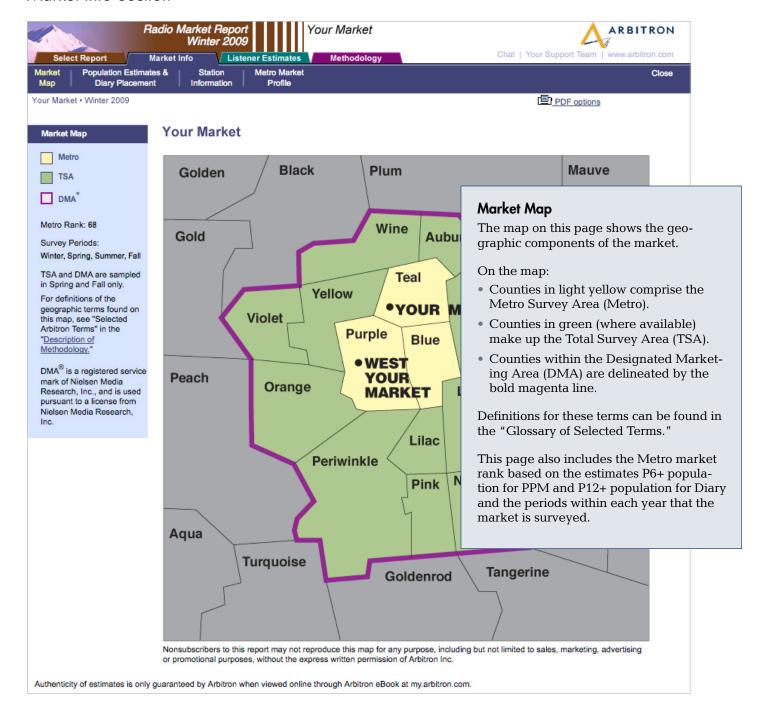


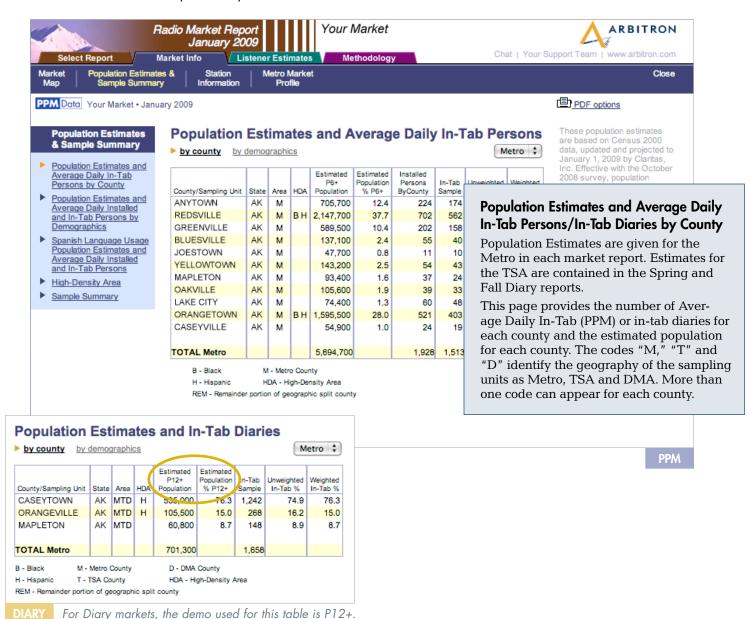


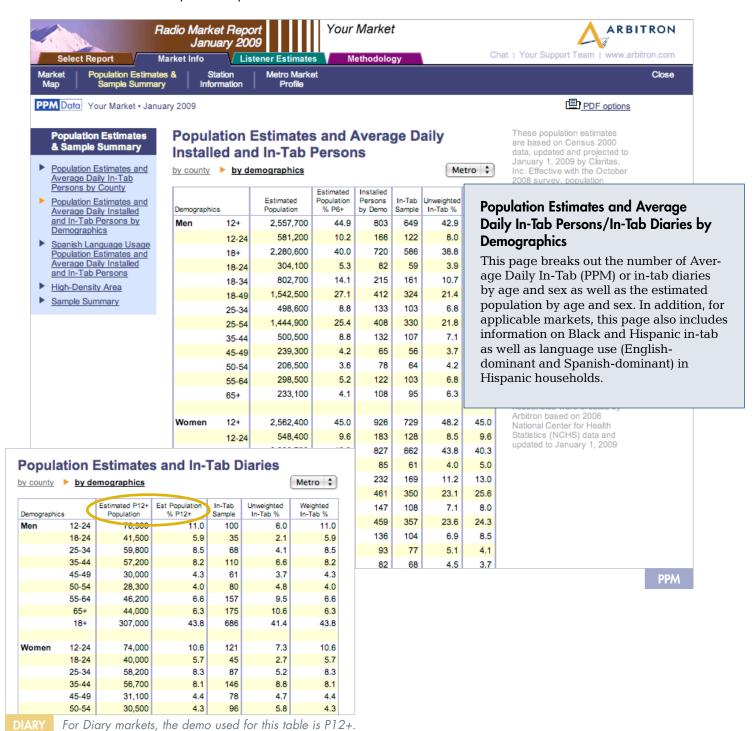
### Welcome Screen (continued)

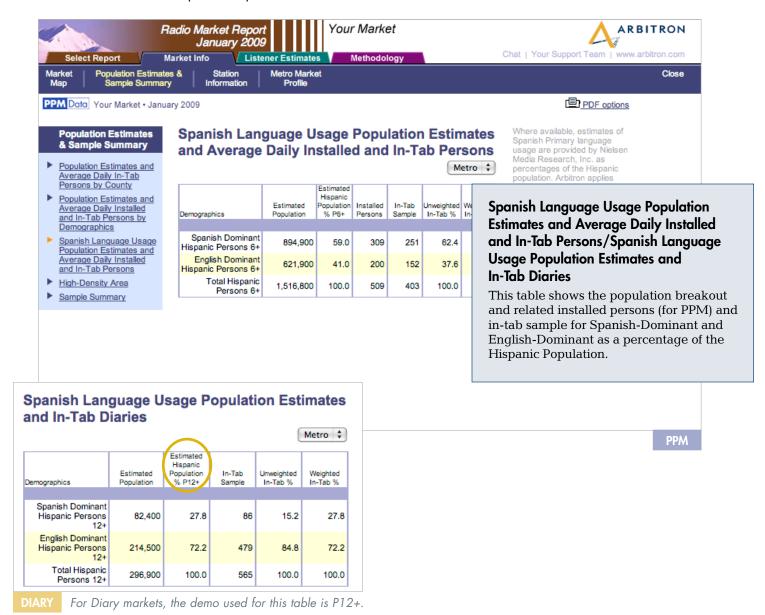


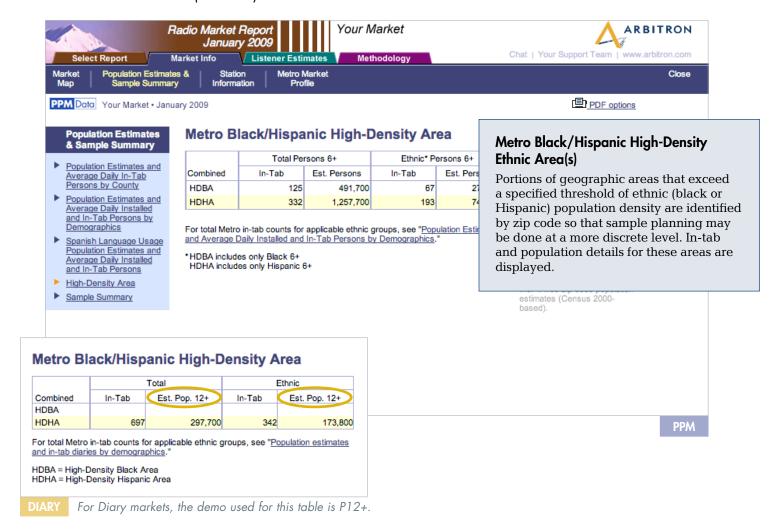
### Market Info Section

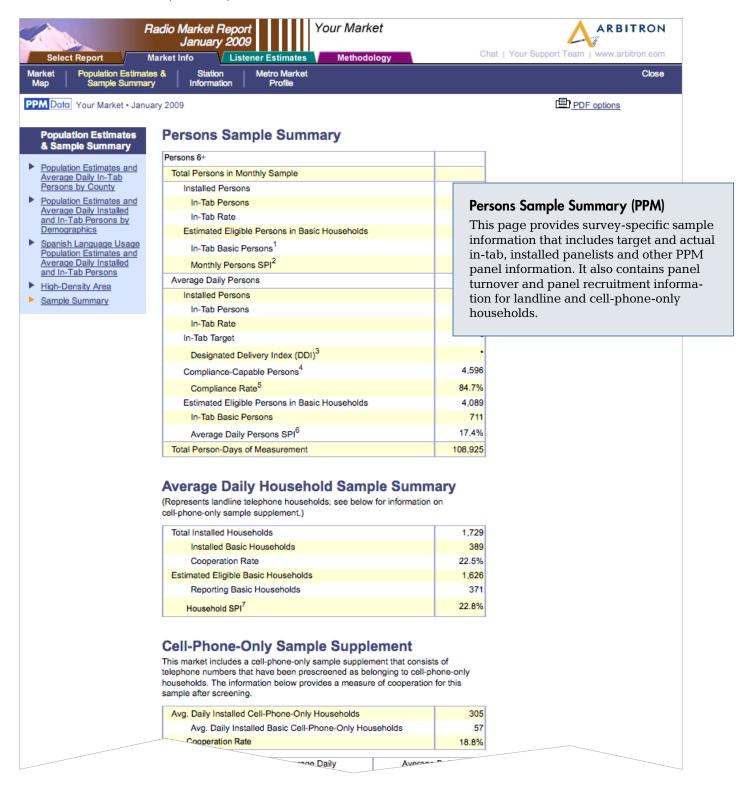


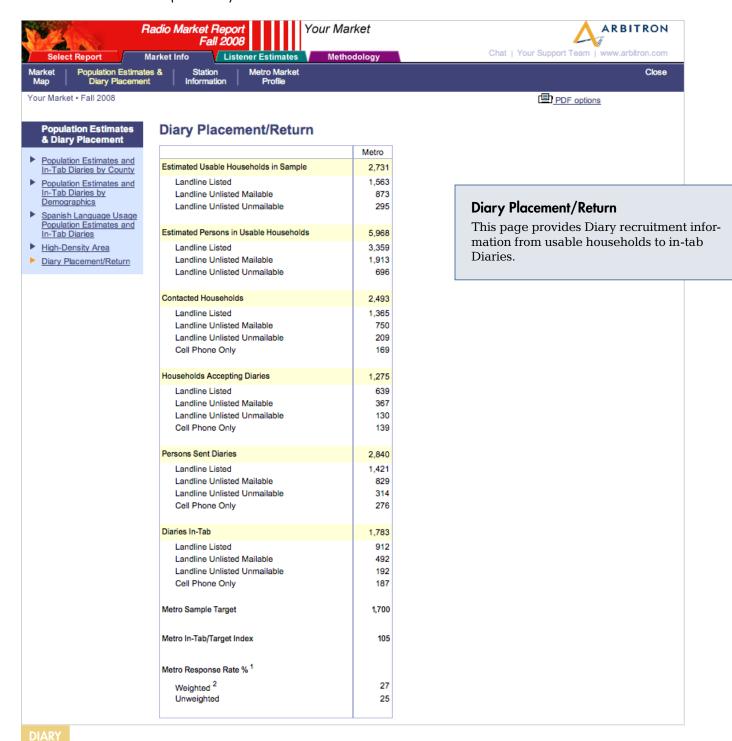


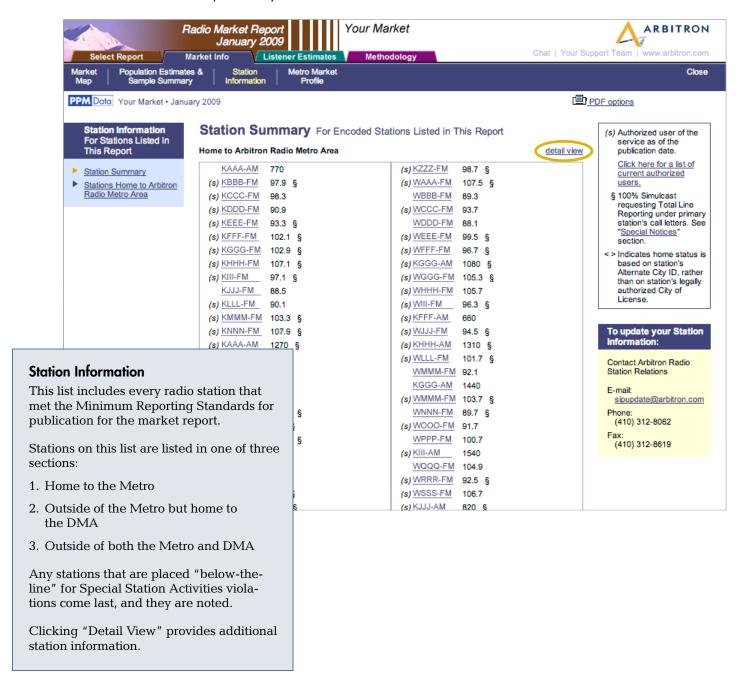








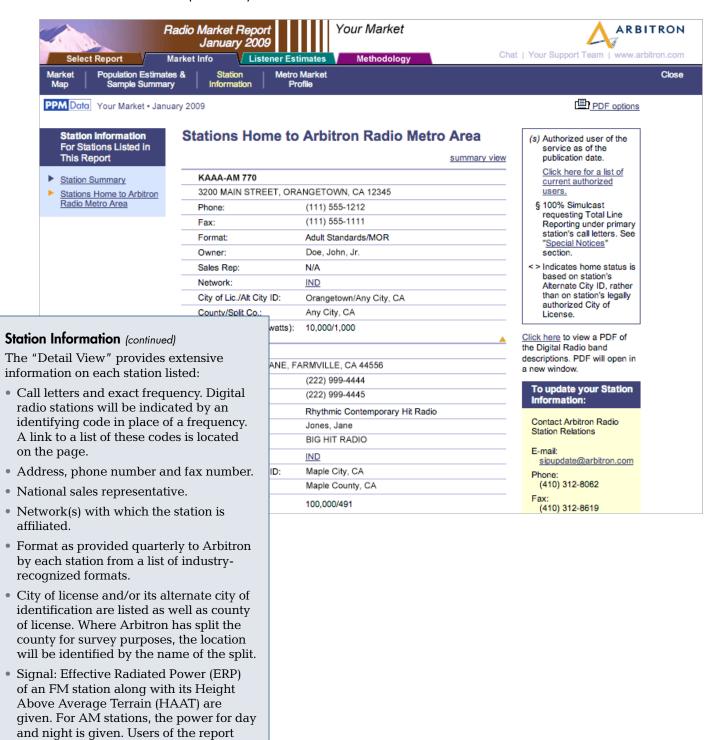


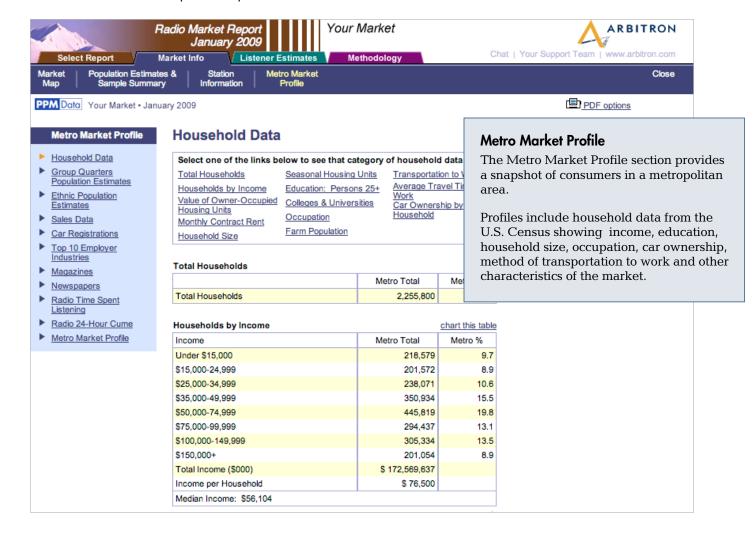


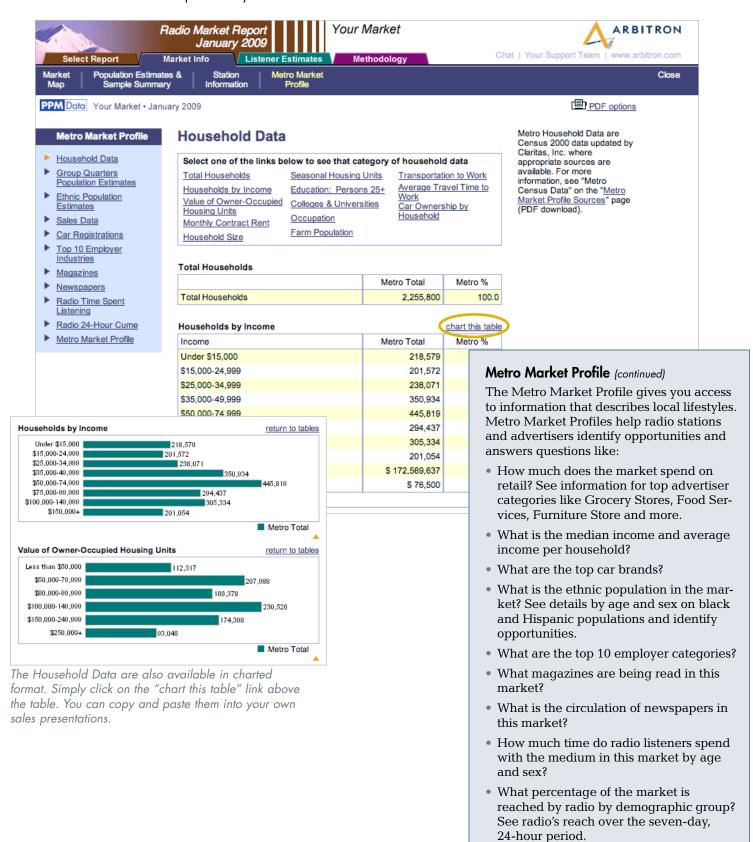
### Market Info Section (continued)

can estimate the station's coverage based on these data. Digital Radio stations will

not display these figures.







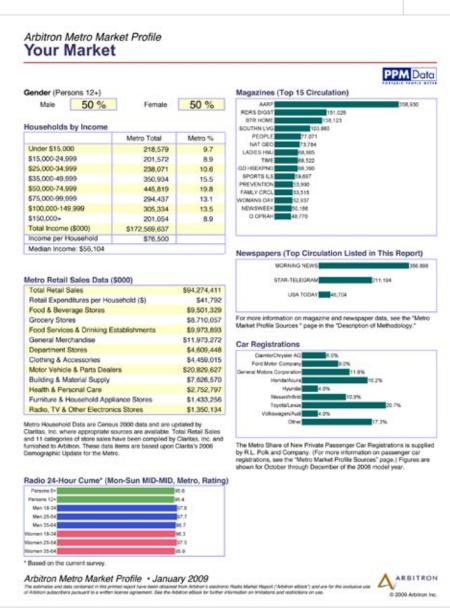
### Market Info Section (continued)



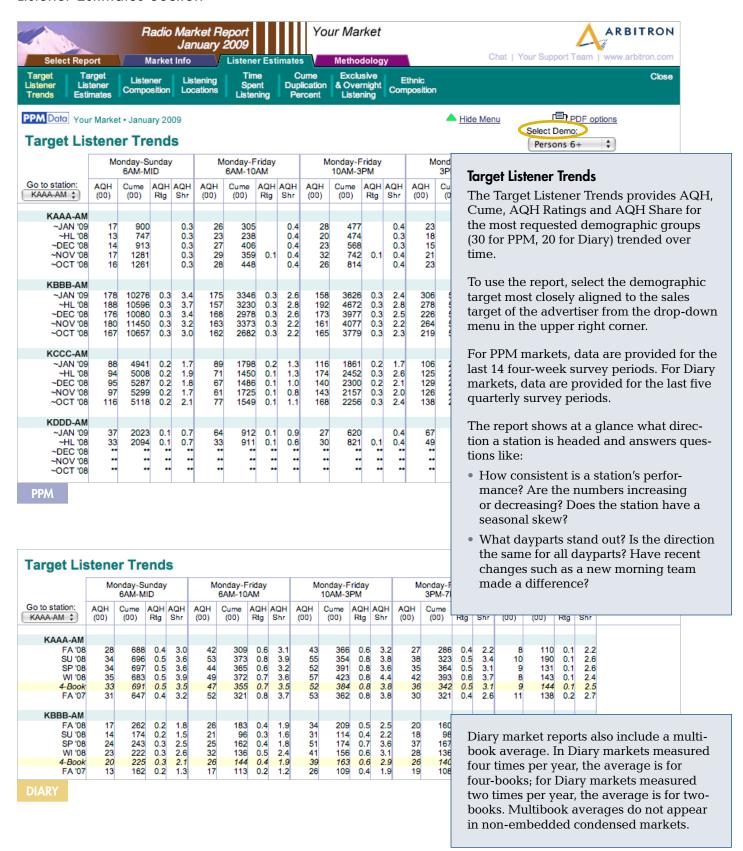
### Metro Market Profile (continued)

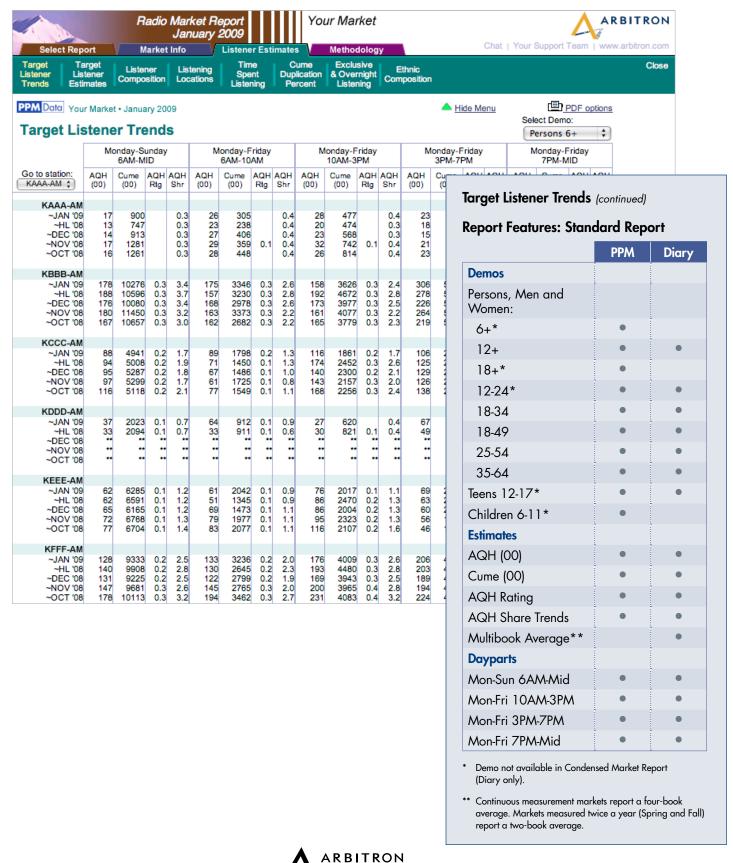
Radio 24-Hour Cume Metro Market Profile

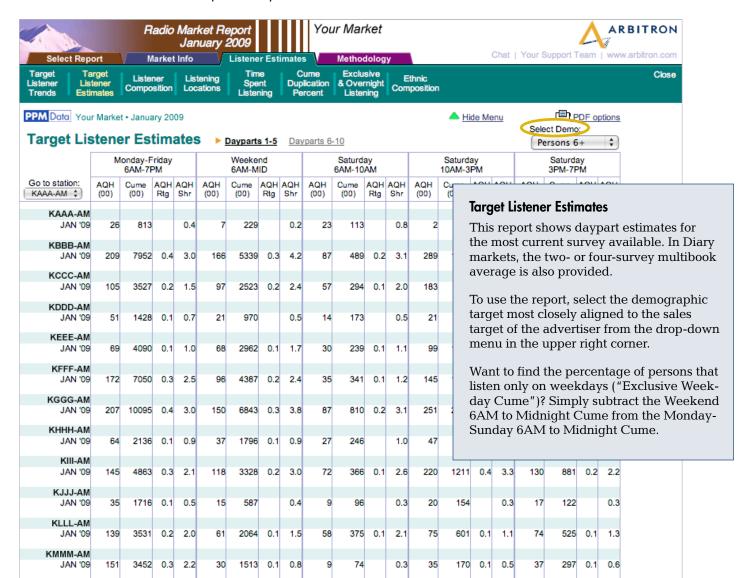
You can also download the Metro Market Profile as a printer-friendly, one-page PDF. This format gives you a quick one-page market snapshot.



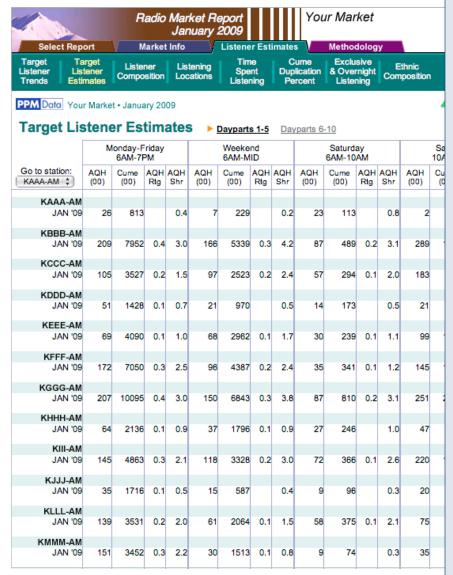
### Listener Estimates Section







### Listener Estimates Section (continued)



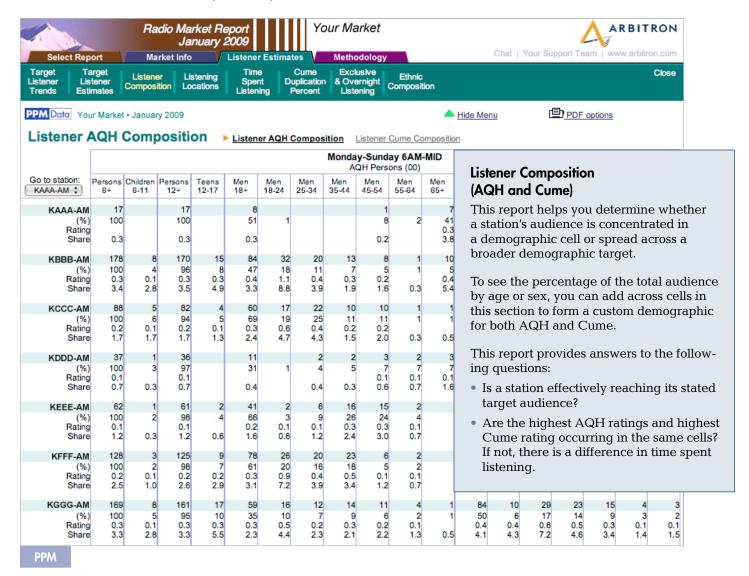
### **Target Listener Estimates** (continued)

### **Report Features: Standard Report**

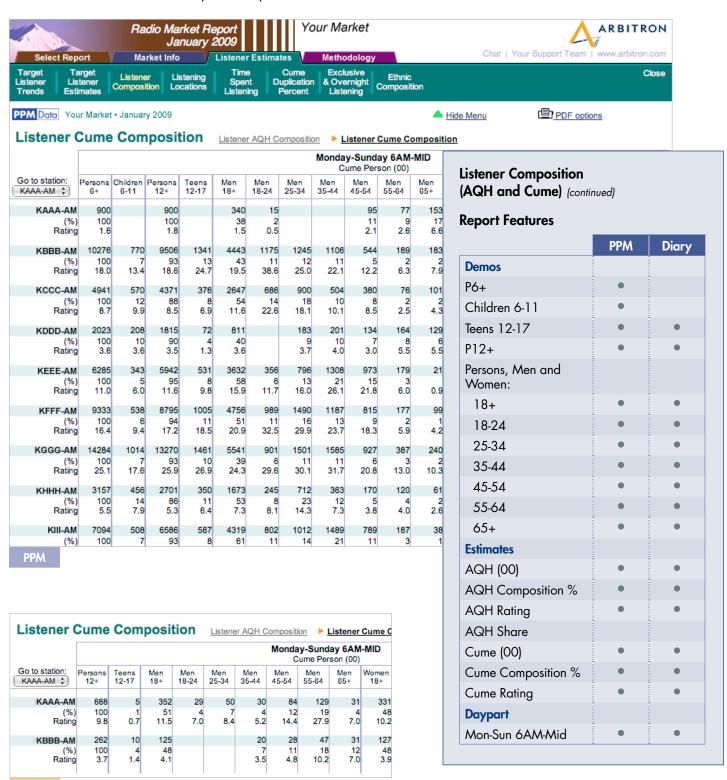
	PPM	Diary
Demos		
Persons, Men and Women:		
6+*	•	
12+	•	•
18+*	•	
12-24*	•	•
18-34	•	•
18-49	•	•
25-54	•	•
35-64	•	•
Teens 12-17*	•	•
Children 6-11*	•	
Estimates		
AQH (00)	•	•
Cume (00)	•	•
AQH Rating	•	•
AQH Share Trends	•	•
Multibook Average**		•
Dayparts		
Weekend 6AM-Mid	•	•
Mon-Fri 6AM-7PM	•	•
Sat 6AM-10AM	•	•
Sat 10AM-3PM	•	•
Sat 3PM-7PM	•	•
Sat 7PM-Mid	•	•
Sun 6AM-10AM	•	•
Sun 10AM-3PM	•	•
Sun 3PM-7PM	•	•
Sun 7PM-Mid	•	•

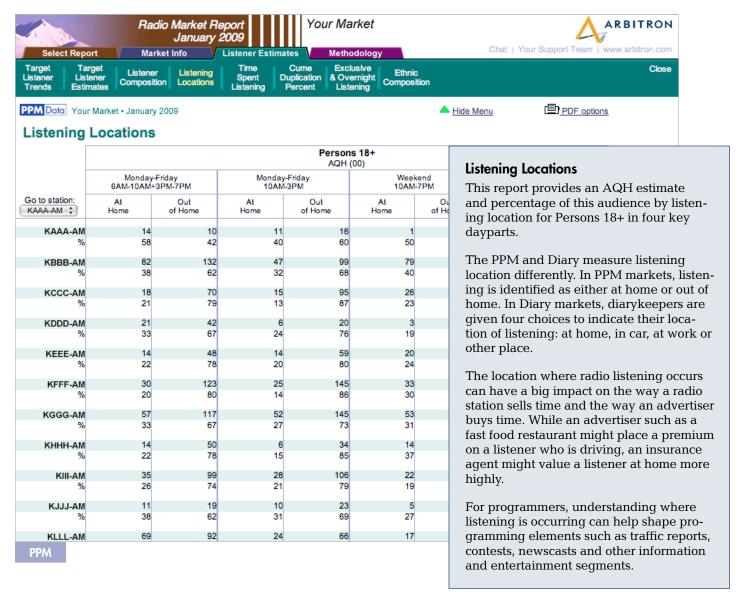
- \* Demo not available in Condensed Market Report (Diary only).
- \*\* Continuous measurement markets report a four-book average. Markets measured twice a year (Spring and Fall) report a two-book average.

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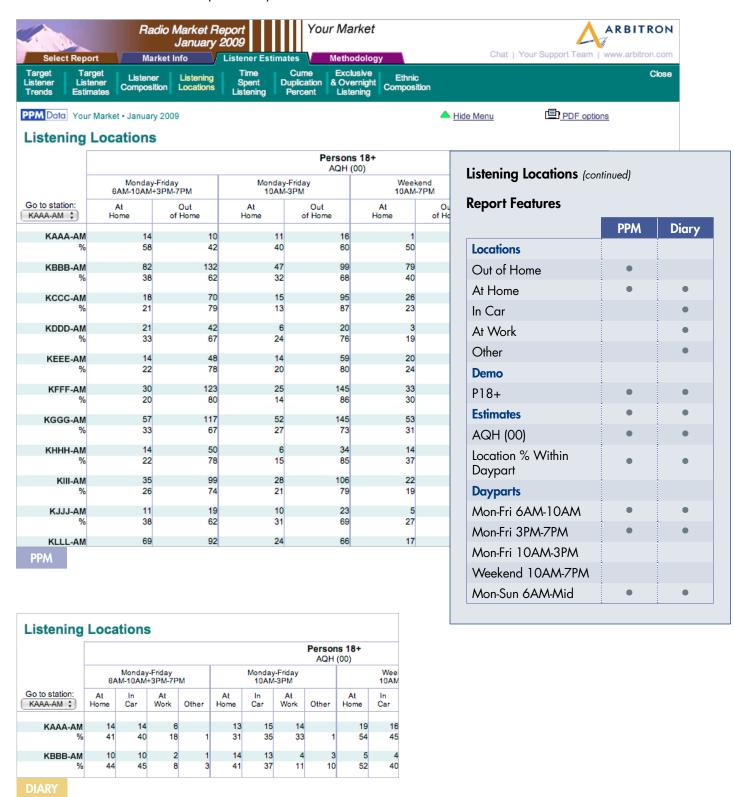


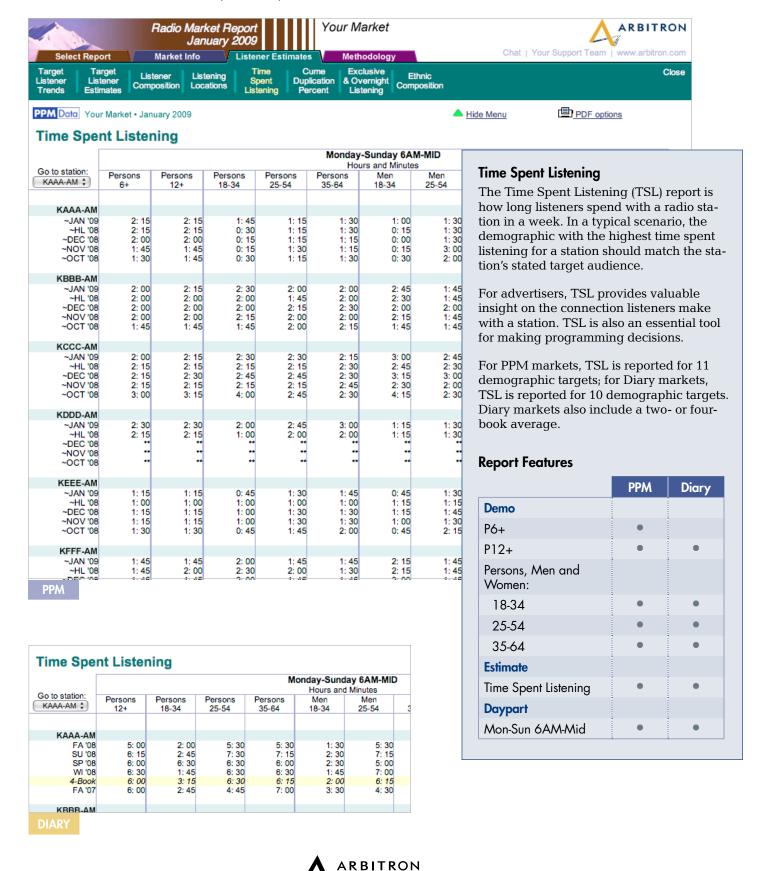
			ositi		Listen					
								y-Sunda QH Perso		-MID
Go to station: KAAA-AM ‡	Persons 12+	Teens 12-17	Men 18+	Men 18-24	Men 25-34	Men 35-44	Men 45-54	Men 55-64	Men 65+	Wome 18+
KAAA-AM	28		14		1	1	6	5	1	1
(%) Rating Share	0.4		51 0.5 3.2	1	0.2 1.2	0.2 1.1	20 1.0 6.3	19 1.1 7.1	5 0.2 1.8	0
KBBB-AM	17		8			1	2	4	2	
(%) Rating		1	49 0.3			5 0.2	10 0.3	21 0.9	12 0.5	

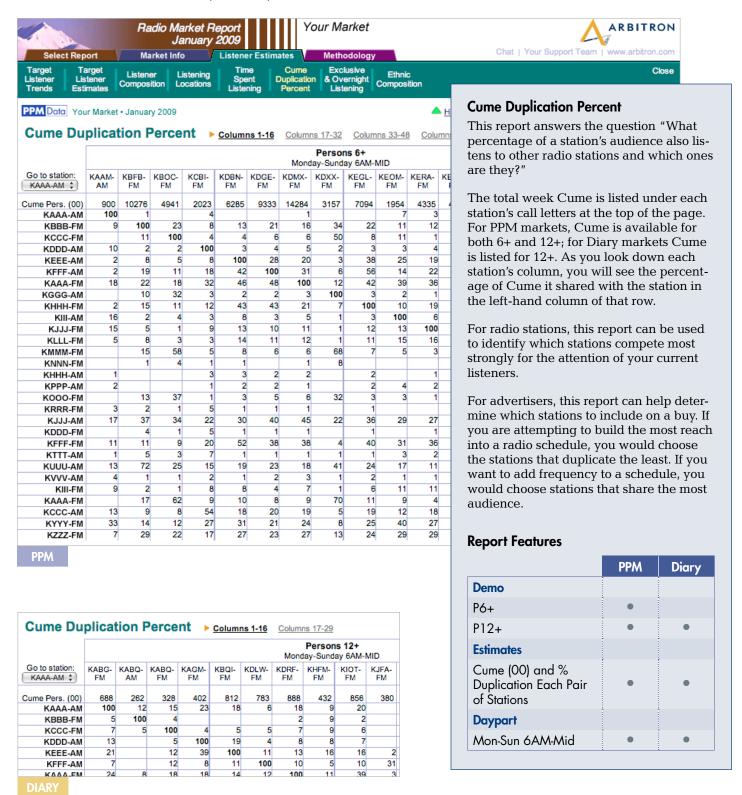


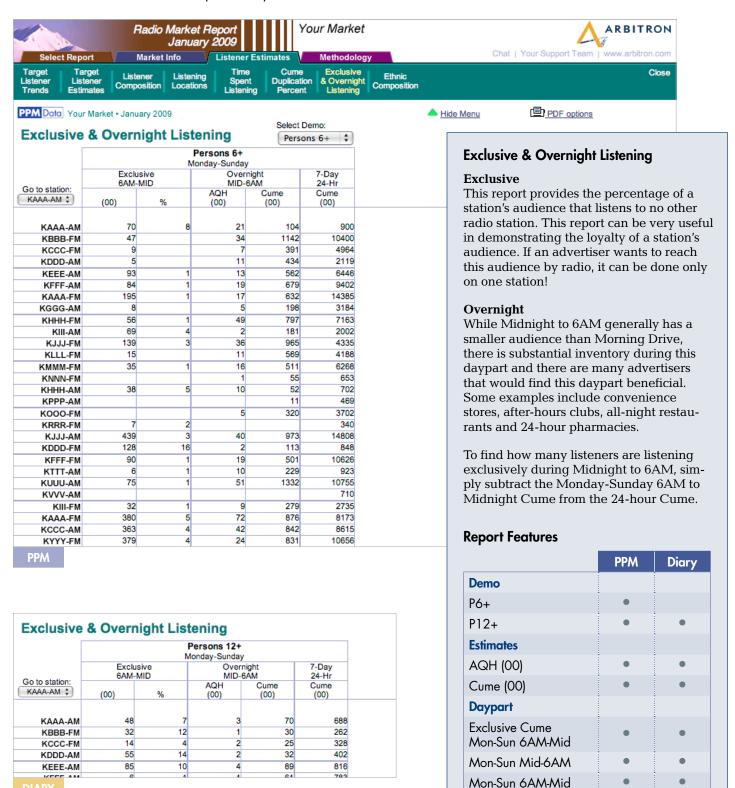


								Person AQH		
	6A	Monday M-10AM	-Friday +3PM-7PI	М		Monday 10AM				Wee 10AN
Go to station: KAAA-AM ‡	At Home	In Car	At Work	Other	At Home	In Car	At Work	Other	At Home	In Car
KAAA-AM	14	14	6		13	15	14		19	16
%	41	40	18	1	31	35	33	1	54	45
KBBB-AM	10	10	2	1	14	13	4	3	5	4
%	44	45	8	3	41	37	11	10	52	40









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# Arbitron eBook Web Site

### Listener Estimates Section (continued)

Total Hispanic

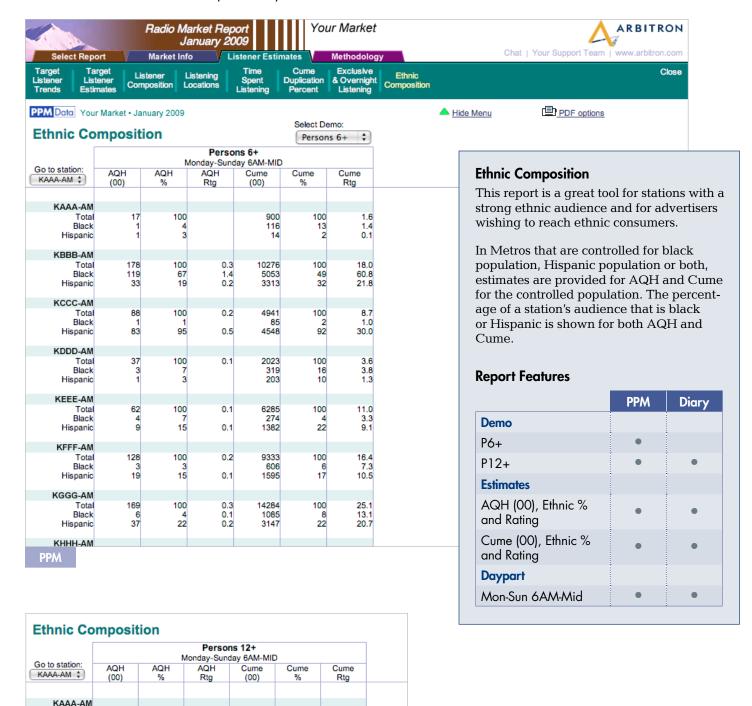
KBBB-AM

Hispanic

0.6

0.2

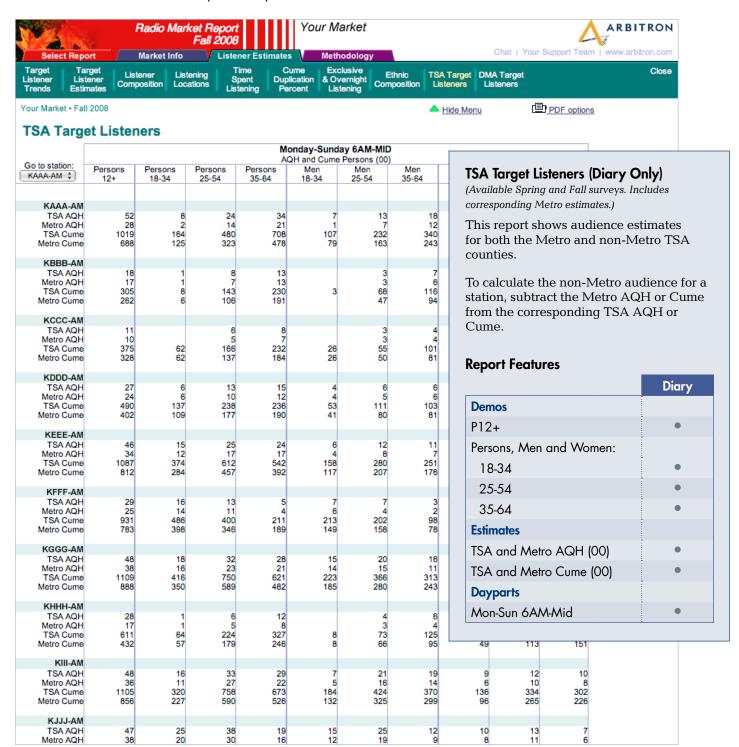
100

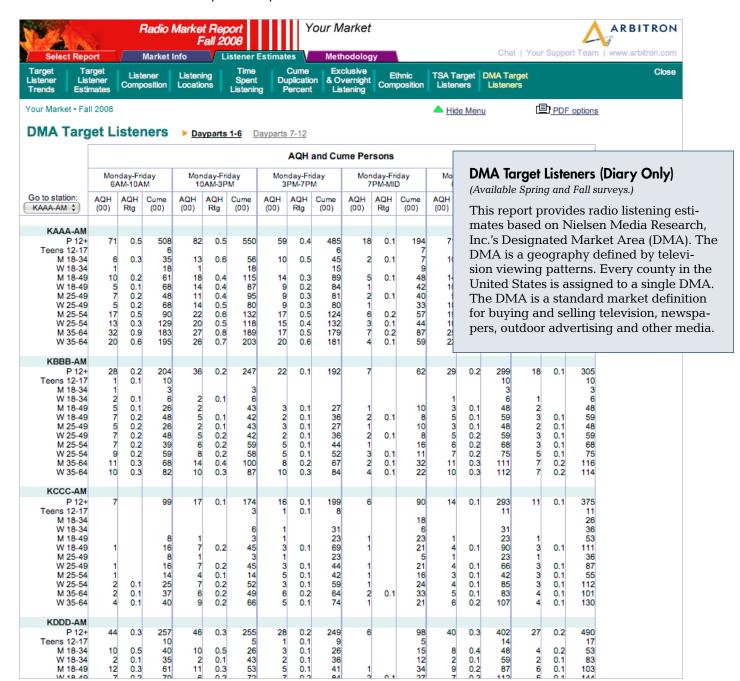


11.7

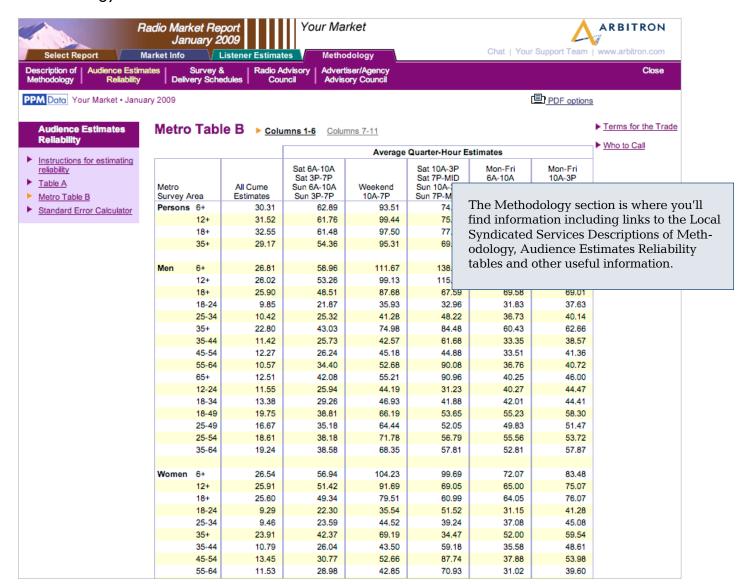
3.7 0.8

100





### Methodology Section



# What You Can/Can't Do With the Numbers

Certain estimates can be added together and others cannot. Since it's often difficult to remember which estimates are compatible, here's a convenient chart:

Do's and Don'ts			
	Station + Station	Demographic + Demographic	Daypart + Daypart
AQH Persons	Yes	Yes	No
AQH Ratings	Yes	No	No
AQH Shares	Yes	No	No
Cume Persons	No	Yes	No
Cume Ratings	No	No	No

This chart assumes a constant geography and non-overlapping demographics/dayparts (Metro compared to Metro; 18-34 added to 35-64).

### AQH Persons, Ratings, Shares

**Stations:** For all AQH estimates (Persons, Ratings and Shares), stations may be added together so long as the demo and daypart for the individual station estimates are the same.

**Demographics:** For AQH Persons, demographic cells may be added together to produce broader demographics (e.g., Teens and Persons 18-24 can be added together to produce Persons 12-24) so long as the daypart is held constant. However, for AQH Ratings, demos are not additive because their denominators are entirely different populations. Likewise, for AQH shares, demos are not additive because their denominators are entirely different AQH PUR\* (or PUMM\*\* for PPM) Totals.

 $\frac{\text{M18-34 AQH Persons}}{\text{M18-34 Pop}} = \text{Men 18-34 Rating}$ 

Similarly, in order to combine demos for Shares, it is necessary to uncalculate the station Share, combine the demos, then recalculate the Share (for PPM, PUMM replaces PUR):

In order to combine demos for Ratings, it is necessary to uncalculate the station rating, combine the demos, then recalculate the Rating:

PUR = Persons Using Radio. It is a convenient shorthand for Metro or DMA Totals.

<sup>\*\*</sup> PUMM = Persons Using Measured Media. Also known as Metro Totals.

# What You Can/Can't Do With the Numbers

Dayparts: Daypart AQH estimates are not additive under <u>any</u> circumstance since, by definition, daypart is not held constant. It was demonstrated above that AQH Ratings and Shares for combined demos are not the sums of the Ratings and Shares for the individual demos, but the <u>weighted averages</u> of the Ratings and Shares for the individual demos. Likewise for combined dayparts: They are the weighted averages of the component dayparts, not the sum of the component dayparts; and they, too, are computed by first unaveraging AQH Persons for the component dayparts, summing the Quarter-Hour Persons and then dividing by the number of quarter-hours in the combined daypart to get the Average Quarter-Hour Persons for the combined daypart:

360QHs

### Cume Persons, Ratings

**Stations:** The definition of Cume is the number of *different* persons listening to a particular station or group of stations. Cume estimates for individual stations cannot be added together because of possible duplication: The same listener would be counted more than once if she/he listened to more than one of the stations in the combination.

**Demographics:** Cume Persons for nonoverlapping demographic groups may be added together, since there is no possibility of counting the same person twice, so long as the daypart for the individual station estimates is the same. However, Cume Ratings are not additive, for the same reason that AQH Ratings are not additive: because they are calculated using different denominators (i.e., population bases).

**Dayparts:** Cume estimates for different dayparts are not additive under any circumstances—for the same reason that AQH estimates for different dayparts are not additive and also because of possible duplication of Cume persons across dayparts.

This section contains equations and formulas you can use to make the most of the audience estimates in your *Radio Market Report*. Whether you're buying or selling radio, following these simple equations can give you the information you need to be on top of any buying/selling situation.

Designed in a workbook format, this section allows you to provide your own information and apply your ratings skills right away using your own current *Radio Market Report*.

Metro:

Station:

Basic Reference Data

With this information (below), you'll be able to calculate:

- · Average Quarter-Hour Rating
- Average Quarter-Hour Share
- Cume Rating
- Target Audience Efficiency
- Exclusive Cume Percent
- Exclusive Cume Rating
- Time Spent Listening
- Turnover

	Daypart:				
	Stat	tion		Me	tro*
Persons 12+ AQH Persons	Demo AQH Persons	Demo Cume Persons	Demo Exclusive Persons	Demo Total AQH Persons (AQH PUR)**	Demo Population

<sup>\*</sup> Could also be calculated for TSA or DMA, so long as all estimates and populations reflect the same geography.

<sup>\*\*</sup> PUMM for PPM.

#### Basic Calculations

**Average Quarter-Hour Rating** expresses the AQH Persons estimate for a demographic group as a percentage of that population in a geographic area. A rating of 1 represents 1% of the population.

<u>AQH Persons</u> x 100 = Average Quarter-Hour Rating Population

Metro:			
Station:			
Daypart:			
Demo:			
AQH Persons ( Population (	;	x 100 =	AQH Rating

**Average Quarter-Hour Share** is a station's AQH Persons audience expressed as a percentage of total radio listening (Metro Total or DMA Total) for a demographic group.

Metro: Station: Daypart: Demo:	
AQH Persons ( Metro Total AQH Persons (	) x 100 = AQH Share ( )

**Cume Rating** expresses the Cume Persons estimate for a demographic group as a percentage of that population in a geographic area. A Cume Rating of 20 means that a station is reaching an estimated 20% of the total population.

Metro:		
Station:		
Daypart:		
Demo:		
Cume Persons ( Population (	) × 100 =	Cume Rating

#### **Target Audience Efficiency (Audience Composition)**

expresses a station's AQH Persons audience for a particular demographic target as a percentage of the station's total (P12+ for Diary and P6+ for PPM) audience. This figure demonstrates a station's coverage of a particular demographic target and is valuable when deciding between two alternatives; the more precisely targeted station (i.e., the station with the higher percent) is the more efficient. This concept can also be applied to Cume and Time Spent Listening.

<u>Station Demo AQH Persons</u> x 100 = TAE Station Total AQH Persons

Metro:		
Station:		
Daypart:		
Demo:		
Station Demo AQH Persons ( Station Total AQH Persons (	) x 100 = TAE (	)

**Exclusive Cume Percent** is a station's Exclusive Cume Persons audience expressed as a percentage of its total Cume Persons audience. This figure is the percent of a station's total Cume audience that listens only to that station and reflects the loyalty of the station's audience.

Exclusive

<u>Cume Persons</u> x 100 = Exclusive Cume Percent

Cume Persons

Metro:		
Station:		
Daypart:		
Demo:		
Exclusive  Cume Persons ( )  Cume Persons ( )	x 100 =	Exclusive Cume Percent

**Exclusive Cume Rating** is a station's Exclusive Cume Persons audience for a target demographic expressed as a percentage of the population for that demographic. This figure demonstrates the percentage of target customers that can only be reached by that station.

Exclusive

<u>Cume Persons</u> x 100 = Exclusive Cume Rating

Population

```
Metro:

Station:

Daypart:

Demo:

Exclusive
Cume Persons ( ) x 100 = Cume Rating
Population ( )
```

Time Spent Listening (TSL) is the amount of time the average listener spends with a particular station during a daypart. It is calculated by dividing the total amount of listening (in quarter-hours) by the total number of listeners. Total quarter-hours is computed by "unaveraging" Average Quarter-Hour Persons—that is, multiplying AQH Persons by the number of quarter-hours in the daypart (see calculation below):

<u>AQH Persons x Quarter-Hours in Daypart</u> = TSL Cume Persons

Metro:		
Station:		
Daypart:		
Demo:		
AQH Persons x	QHs in Daypart  ( ) = TSL (	

**Turnover** is the number of different groups of persons that make up a station's audience. It is the ratio Cume Persons to AQH Persons. The lower the turnover factor, the more loyal the station's audience. The higher the turnover factor, the faster the rate of Cume growth. Turnover reflects the relationship between AQH and Cume.

<u>Cume Persons</u> = Turnover Factor AQH Persons

Metro:	
Station:	
Daypart:	
Demo:	
<u>Cume Persons (</u> ) = Turnover ( AQH Persons ( )	)

# How to Calculate Quarter-Hours in Daypart: # days in daypart x # hours in daypart x # QHs in an hour = # QHs in a daypart Example: Mon-Fri 6A-10A = 5 days x 4 hours x 4 QHs = 80 QHs in daypart

## Buying/Selling Formulas

Gross Impressions (GIs) are the number of impressions a schedule will deliver. GIs are computed by multiplying the AQH Persons estimate for the particular daypart by the number of spots to be run in the daypart. The GIs for the individual dayparts are then summed to obtain the total number of GIs a schedule will deliver.

**Note:** As the name implies, Gross Impressions represent the total number of times a spot will be heard—not the number of persons who will hear it.

Metro	o:							
Statio	n:							
Demo	:							
AQH Daypar	†	Per	sons	x	# 5	pots	=	Gls
Example M-F 6A	le: -10A	47	00	х		5	=	23500
(	)	(	)	х	(	)	=	( )
(	)	(	)	х	(	)	=	( )
(	)	(	)	х	(	)	=	( )
(	)	(	)	х	(	)	=	( )
,	)	(	)	х	(	)	=	( )
(	1							

Gross Rating Points (GRPs) are the number of rating points a schedule will deliver. The most precise way to compute GRPs is to compute GIs as shown above, and then divide Schedule GIs by the population for the particular demographic group.

**Note:** Although Gross Rating Points are Gross Impressions expressed as a percentage of the population, GRPs should not be understood as the actual percentage of the population that would be exposed to the spot (more below).

<u>Schedule Gross Impressions</u> = Schedule GRPs Population

Metro:	
Station:	
Daypart:	_
Demo:	
Schedule Gls ( ) = Schedule GRPs ( )	)

An alternative method of computing GRPs is to multiply the AQH Rating for each daypart by the number of spots to be run in the daypart. Then, sum the GRPs for the individual dayparts to obtain the Schedule GRPs.

Metro:											-
Station	:										-
Demo:											- 1
AQH Daypart			QH ting	x	#	Spo	ts	=		GRPs	
Example M-F 6A-	e: 10A	2	3	x		5		_	1	1.5	
(	)	(	)	X	(		)	=	(		)
(	)	(	)	X	(		)	=	(		)
(	)	(	)	Х	(		)	=	(		)
(	)	(	)	X	(		)	=	(		)
(	)	(	)	X	(		)	=	(		)
			Total	Sche	edule	e GR	Ps	=	(		)

## Caution: 100 GRPs do not deliver 100% of the market

Some users of audience ratings mistakenly believe that if they buy 100 Gross Rating Points in a market, they are buying 100% of the available listeners. It sounds reasonable: If one rating point equals 1% of the population, then 100 rating points must equal everyone in the market.

But remember that Gross Impressions (the basis for Gross Rating Points) equals the number of spots times the estimated number of persons hearing the spot, and does not necessarily represent different people; in fact, there is always some duplication, and there may be quite a lot of duplication.

For example, in a Metro consisting of 125,000 Persons 12+, it wouldn't even be possible for 125,000 GIs (or

100 GRPs) to represent everyone in the market. First, not every person in a market listens to radio; then, of those who do listen to radio (approximately 95%), many listen to more than one station. So, even if it was considered desirable to completely avoid duplication, it probably wouldn't be achievable.

One final note: Just as 100 GRPs does not represent 100% coverage of a market, 200 or 300 GRPs does not represent reaching the entire market two or three times. Three hundred (300) GRPs, for example, may represent a reach of 30 and an average frequency of 10—or a reach of 50 and an average frequency of 6.

**Reverse Gross Impressions** is a term often used when calculating the number of spots needed on a competing station to match your station's Gross Impressions.

<u>Your Station Gross Impressions</u> = # of spots needed Competing Station AQH Persons

Metro:		
Demo:		
Daypart:		
Your Station:		
Competing Station:		
Your Station Gls ( Competing Station AQH (	) = # of spots (	)

Cost Per Gross Rating Point ("Cost Per Point") is the average cost of one GRP in a given schedule. It is calculated by dividing the total cost of the schedule by the total number of GRPs the schedule is expected to deliver.

Metro:	
Station:	
Daypart:	
Demo:	
Cost of Schedule ( ) = Cost Per Point ( GRPs ( )	)

**Cost Per Thousand (CPM)** is the estimated cost of each 1,000 Gross Impressions delivered by a schedule.

$$\frac{\text{Cost of Schedule}}{\text{Gls}} \times 1,000 = \text{CPM}$$

Metro:	
Station:	
Daypart:	
Demo:	
Cost of Schedule ( ) x 1	,000 = CPM (

**Reverse Cost Per Thousand** is the maximum rate per spot a competing station can charge to be as cost-effective as your station.

Metro:	
Demo:	
Daypart:	
Your Station:	
Competing Station:	_
Your Competing Station Station <u>CPM x AQH ( )</u> = Reverse CPM ( 1,000	)

**Listeners Per Dollar** expresses the number of persons reached (or impressions achieved) with a single advertising dollar. This calculation often demonstrates the advantage of radio over direct mail.

Metro:	
Station:	_
Daypart:	_
Demo:	_
AQH Persons ( ) = Listeners Per Dollar ( Spot Cost (\$ )	)

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## Reach and Frequency

Reach and Frequency is the process of answering two questions:

- How many different people hear the spot at least once during its series of plays on the air?
- How many times, on average, does the listener hear the spot?

**Reach** identifies the estimated number of different people reached by a schedule. It is the unduplicated audience a station delivers. Reach can be expressed either as different persons or as a rating.

**Frequency** is the average number of times the unduplicated listener will hear an advertising message.

$$Frequency = \frac{Gross\ Impressions}{Reach\ of\ Schedule\ (Persons)}$$

OR

Frequency = 
$$\frac{\text{Gross Rating Points}}{\text{Reach of Schedule (Rating)}}$$

Advertisers have been using Reach and Frequency for many years to estimate the delivery of advertising schedules. This estimate helps determine the total number of different people that will hear an advertising schedule at least once. However, since the spot is not on the air constantly, the estimate is less than the station's Cume estimate for the same time period. Once Reach has been determined, Frequency can be easily calculated.

Most Reach and Frequency formulas used for evaluating radio advertising schedules are models or mathematical simulations. Reach, when calculated on models, uses probability analysis to determine an estimated audience size.

Arbitron's software applications provide an efficient and easy way to calculate Reach and Frequency.

**Cost-Per-Thousand Net Reach** is the cost of reaching 1,000 different people on a station.

<u>Cost of Schedule \$ (000)</u> = CPM Net Reach Net Reach of Schedule

Daypart:		_
Demo:		
Station:		
Cost of Schedule (\$ Net Reach of Schedule (	) = CPM Net Reach (\$	)

# Radio Ratings Review Quiz

Here's a brief True/False quiz to help you test your knowledge of radio audience estimates and the information contained in Arbitron eBook. All the answers can be found within this reference guide.

True or False
1. A station's share is based on population.
2. To calculate Gross Impressions, multiply the number of spots by the AQH Persons audience.
3. To find changes in a station's market share over time, you would refer to the "Target Listener Trends" section.
4. You can't add Cume estimates across stations.
5. Cume Ratings can indicate the audience penetration of stations.
6. 100 GRPs deliver 100% of the available audience of a market.
7. Exclusive Cume listening estimates identify the number of different people who listened to one station during a time period.
8. If a station has an average audience of 12,000 and a cost-per-spot of \$45, the cost-per-thousand for 20 spots would be \$3.75.
9. You can add Cume Ratings across stations and dayparts.
10. A person listening to all quarter-hours during a time period counts more in the Cume Persons estimate than someone only tuning in during one quarter-hour.
11. A station has an Average persons audience of 25,700 and a Cume persons audience of 135,500. The TSL for M-F 6AM-10AM is 15.2 quarter-hours.
12. Using the above example, the turnover factor for this station is 5.3.
13. Average Quarter-Hour Ratings and Cume Ratings have the same base.
14. Gross Impressions represent the number of people that have heard an advertising spot.
15. The higher the turnover factor, the faster the rate of Cume growth.
Answers 1. F 2. T 3. T 4. T 5. T 6. F 7. T 8. T 9. F 10. F 11. T 12. T 13. T 14. F 15. T

# Information and Training Resources

Arbitron offers many free resources to help you get the most value for your subscription. You can get information on radio markets, reports on the evolving way consumers use media and a lot more at www.arbitron.com. Here's a sampling of some of what's available:

#### **Arbitron Radio Market Rankings**

Online list showing the population rankings for all Arbitron-rated markets. Includes information on measurement type (PPM or Diary), Differential Survey Treatments, Qualitative data and the Metro 12+ population.

www.arbitron.com/home/mm001050.asp

#### **Arbitron Market Survey Schedules**

Online guide detailing survey dates for Diary and PPM markets.

www.arbitron.com/home/surveysched.asp

#### **Arbitron Ratings Data Delivery Schedules**

Online lookup tool for market delivery dates for Arbitron ratings data services. Includes delivery information for Arbitron eBook, Arbitrends<sup>SM</sup>, Black summary data, Hispanic summary data, Maximi\$er®, Media Professional<sup>SM</sup>, PPM Weeklies<sup>SM</sup> and PPM Monthlies services.

www.arbitron.com/home/delivsched.asp

#### **Arbitron Qualitative Data Delivery Schedules**

Online lookup tool for market delivery dates for Arbitron qualitative consumer data services. Includes delivery information for Scarborough, Retail Direct and Qualitative Diary services.

www.arbitron.com/radio\_stations/QualSched.asp

#### **Glossary of Selected Terms**

An online glossary of terms used in radio ratings is included in Arbitron's Local Syndicated Services Description of Methodology (DOM), which can be accessed through Arbitron eBook.

#### Rating Distortion & Ratings Bias Handbook

Printer-friendly downloadable guide that provides information on Arbitron's Special Station Activities policies. The guide is designed to help station personnel avoid activities that sensitize or bias radio listeners about the survey process.

www.arbitron.com/downloads/ratingdistortionandbias.pdf

#### **Training and Support Center**

Online site that provides a wide array of self-paced interactive courses, recorded classes and live interactive training sessions on a wide variety of Arbitron services.

http://www.arbitrontraining.com

#### Free Studies and Reports

Check out Arbitron's acclaimed series of studies and reports on emerging trends in consumer behavior and media usage. Recent studies have includes a review of radio's emerging digital platforms, an evaluation of the effectiveness of product sampling as a marketing and sales tool and the way Hispanic Americans use radio.

http://www.arbitron.com/home/studies.htm

Arbitron's Local Syndicated Services Description of Methodology can be accessed through Arbitron eBook and includes a comprehensive glossary of terms. A subset of frequently used terms is listed below.

## Glossary of Terms

**Average Quarter-Hour Composition:** An encoded station's Target AQH Persons divided by its Total Persons 6+ AQH audience.

Average Quarter-Hour (AQH) Persons: The estimated average number of persons who were exposed to or listened to a station for a minimum of five minutes within a reported daypart. (Note: the five minutes of exposure need not be continuous). AQH is used to estimate duration of listening (TSL or AWTE). Expressed in hundreds (00).

Average Quarter-Hour (AQH) Rating: A station's Average Quarter-Hour Persons estimate expressed as a percentage of all persons estimated to be in the specified demographic group.

**Average Quarter-Hour Share:** The Average Quarter-Hour Persons estimate for a given station expressed as a percentage of the Metro Total Average Quarter-Hour Persons estimate within a reported daypart.

**Average Weekly Time Exposed (AWTE):** See "Time Spent Listening (TSL)."

Condensed Radio Market Report (CRMR): Condensed Reports have smaller sample objectives for the Metro and TSA, and contain fewer dayparts and demographics than Standard Radio Market Reports. Effective Fall 2005, estimates published in Radio Market Reports for non-embedded condensed radio markets consist of averages from the two most recent survey periods.

#### **Cost Per Gross Rating Point (or "Cost Per Point"):**

The cost of achieving a number of impressions equivalent to one percent of the population in a given demographic group.

**Cost Per Thousand (CPM):** The cost of delivering 1,000 Gross Impressions (GIs).

OR

$$\frac{\text{Spot Cost}}{\text{AQH Persons}} \times 1,000 = \text{CPM}$$

"Cell-Phone-Only" Household: Households with cellular telephone service that do not also have landline telephone service.

**Compliance Rate (PPM):** The percentage of Metered panelists eligible to be included in the In-Tab sample. A panelist may be ineligible due to factors such as an extended period of travel away from home.

**Cume Duplication Percent:** The percentage of one station's estimated Cume audience that listened to a second station.

**Cume Persons:** The estimated number of different persons who were exposed to or listened to a station for a minimum of five minutes in a quarter-hour within a reported daypart. (Cume estimates may also be referred to as cumulative or unduplicated estimates.) This estimate is expressed in hundreds (00).

**Cume Rating:** The Cume persons audience expressed as a percentage of all persons estimated to be in the specified demographic group.

**Demographics:** Characteristics of the population such as age, sex, race/ethnicity, etc.

**Designated Delivery Index (DDI):** A measure of sample delivery that indicates how the PPM and Diary services deliver specific demographic groups, such as race/ethnicity and age cells. It is based on how well Arbitron meets its In-Tab goals. A 100 DDI is considered ideal. DDI is calculated as follows:

Demo or Geo Average

Daily In-Tab

Demo or Geo Average
Population x Daily
Percent Target

Designated
Delivery Index

DDI reflects the extent to which the In-Tab sample aligns with "perfect" sample distributions based on the population universe and the total In-Tab target, as opposed to proportionality for Diary, compares the actual share of in-tab to the targeted share of in-tab. DDI is not affected by higher or lower actual In-Tab results for other demos.

Designated Market Area (DMA): Nielsen Media Research, Inc.'s geographic market design, which defines each television market exclusive of others based on measurable viewing patterns. Every county (or county equivalent) in the U.S. is assigned exclusively to one DMA. Arbitron reports radio listening estimates for the Top 50 DMAs (ranked on TV households) in the *Radio Market Reports* of all Standard radio markets whose Metros are located within the DMA and whose names are contained in the DMA name.

**Discrete Demographics:** This term refers to uncombined or nonoverlapping sex/age groups, such as Men and/or Women 18-24, 25-34, 35-44, as opposed to "target" or aggregate demographics, such as Men and/or Women 18+, 18-34, 18-49 or 25-49.

**Effective Sample Base (ESB):** The theoretical sample size used to estimate the sampling error of audience estimates.

**Exclusive Cume:** The number of different persons listening to only one station during a reported daypart.

**Frequency:** The average number of times a person is exposed to a radio spot schedule.

<u>Gross Impressions</u> = Frequency Net Reach

**Gross Impressions (GIs):** The sum of the AQH Persons audience for all spots in a given schedule.

AQH Persons x The number of spots in an advertising schedule = GIs

**Group Quarters:** Living arrangements of 10 or more, such as college dormitories, military barracks, nursing homes and prisons.

**In-Tab Rate (PPM):** Metered panelists who qualify for in-tab as a percent of all metered panelists.

**In-Tab Sample (Diary):** The number of usable diaries tabulated to produce the market report. D

**Listening Location:** A location for which Arbitron reports audience estimates. In Diary-based reports, listening locations include: "At Home," "In a Car," "At Work" and "Other Place." In PPM-based reports, listening locations include: "At Home" and "Away from Home."

**Metro:** Arbitron Metros generally correspond to the Metropolitan Statistical Areas (MSAs, PMSAs, CMSAs) defined by the U.S. Government's Office of Management and Budget. They are subject to exceptions dictated by historical industry usage and other marketing considerations as determined by Arbitron.

Metro Totals and/or DMA Totals (Total listening in the Metro and/or DMA): These total listening estimates include listening to reported stations, nonqualifying commercial stations, noncommercial stations, cable-only stations and unidentified stations.

Minimum Reporting Standards (MRS): Criteria used to determine which stations qualify to be listed in a market report.

**Net Reach:** The number of unique persons reached in a given schedule.

**Persons-Per-Diary Value (PPDV):** The weight assigned to each diary by sample balancing (based on the diarykeeper's age, sex, county and, if applicable, ethnic and/or language usage [English/Spanish] group) immediately prior to report processing. It is the number of persons in the population which that diary represents for purposes of processing audience estimates.

Persons-Per-Meter Value (PPMV): The weight assigned to each panelist by sample balancing (based on the panelist's age, sex, county, presence of children, employment status and, if applicable, ethnic and/or language usage [English/Spanish] group) immediately prior to report processing. It is the number of persons in the population that a panelist represents for purposes of processing audience estimates.

**Persons Using Radio (PUR):** The total amount of listening to radio for a particular demo/daypart/geography. The term PUR can refer to Persons or Ratings, AQH or Cume. (See also "Metro Totals and/or DMA Totals," above.)

**Persons Using Measured Media (PUMM):** See "Metro Totals."

**Portable People Meter (PPM):** An electronic-measurement device that detects and stores CBET codes as it is exposed to encoded audio.

**Rating (AQH or Cume):** The AQH or Cume Persons audience expressed as a percentage of the total population.

Sample Performance Indicator (SPI): A metric with which to measure sample performance for a panel design. SPI is tracked at both the household and person levels and is reported for individual media days and for the month.

**Sample Turnover:** When a household exits the panel. All households are phased out of the panel after two years, but may be phased out earlier.

**Sampling Unit:** A geographic area consisting of a county or county equivalent (e.g., geographic or ethnic split county, or independent city) for which sample is separately selected and monitored.

**Sex/Age Populations:** Various sex/age groups are determined from population estimates within a county.

**Share:** See definition for AQH and/or Cume Share.

**Simulcast:** The simultaneous broadcast of one station's broadcast flow by another station (noted in the "Station Information" section, from information supplied to Arbitron by stations).

**Target Demographics:** Audience groups consisting of multiple discrete demographic cells (e.g., Men 18-34, Women 25-54).

**Technical Difficulty (TD):** Time period(s) of five or more consecutive minutes during the survey period for which an RMR-qualifying station notified Arbitron, in writing, of reduced power, intermittent power, signal interference or time off-air during the station's authorized broadcast day.

**Time Spent Listening (TSL):** An estimate of the amount of time the average listener spent with a station (or total radio) during a particular daypart. Expressed in hours and minutes.

To express TSL in hours and minutes:

$$\frac{\text{TSL (in quarter-hours)}}{4} = \underbrace{\text{HH.XX}}_{\text{XX (TSL in decimal hours)}} \\ \underbrace{\text{XX hours}}_{\text{XX hours}} \\ \underbrace{\text{XX hours}}_{\text{MM minutes}}$$

$$\text{HH:MM (TSL in hours and minutes)}$$

**Total Line Reporting:** The reporting of audience estimates for stations that simulcast 100 percent of their broadcast day throughout the report period, including commercials and PSAs, under a single set of call letters (e.g., the "primary" station's call letters).

**Total Survey Area (TSA):** A geographic area that includes the Metro Survey Area and may include additional counties (or county equivalents).

**Turnover:** The total number of different groups of persons that make up a station's audience.

**Universe:** The estimated population for an age/sex group in a geographic area.

## Frequently Used Abbreviations

AQH Average Quarter-Hour

CMSA Consolidated Metropolitan Statistical Area

CPM Cost Per Thousand

CRMR Condensed Radio Market Report

DDI Designated Delivery Index

DMA Nielsen Media Research, Inc.'s

Designated Market Area

DST Differential Survey Treatment

ERP Effective Radiated Power

ESB Effective Sample Base

GIs Gross Impressions

GRPs Gross Rating Points

HAAT Height Above Average Terrain

HDBA High-Density Black Area

HDHA High-Density Hispanic Area

MRC Media Rating Council

MRS Minimum Reporting Standards

MSA Metropolitan Statistical Area

PMSA Primary Metropolitan Statistical Area

PPDV Persons-Per-Diary Value

PUMM Persons Using Measured Media

PUR Persons Using Radio

RMR Radio Market Report

SPI Sample Performance Indicator

SRMR Standard Radio Market Report

TSA Total Survey Area

TSL Time Spent Listening

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## **About Arbitron**

Arbitron Inc. (NYSE: ARB) is a media and marketing research firm serving the media—radio, television, cable, online radio and out-of-home—as well as advertisers and advertising agencies. Arbitron's core businesses are measuring network and local market radio audiences across the United States; surveying the retail, media and product patterns of local market consumers; and providing application software used for analyzing media audience and marketing information data. The company has developed the Portable People Meter™, a new technology for media and marketing research.

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