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Local Syndicated Services

# Description of Methodology

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Diary and PPM Radio Market  
Reports/Arbitron eBooks

Winter 2011

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# The Local Syndicated Services Description of Methodology

## Arbitron Radio Market Reports/Arbitron eBooks

An Arbitron *Radio Market Report*/Arbitron eBook<sup>SM</sup> provides authorized users of Arbitron data with information on the size and demographic composition of radio audiences—information essential to sound decision making for advertising sales and radio programming. Each *Radio Market Report*/Arbitron eBook contains audience estimates for the applicable survey or report period in a particular Arbitron-defined Market, audience trends based on prior surveys and report periods, and other important information about the Marketplace.

## The Local Syndicated Services Description of Methodology

This document is entitled the *Local Syndicated Services Description of Methodology*. It is intended to provide a detailed, high-level description of the methodology used in the production of Arbitron *Radio Market Reports*/Arbitron eBooks for Markets that are home to the 50 United States, the District of Columbia, and Puerto Rico. It includes information about the types of audience estimates included in the reports, the sampling methods used, the survey instruments, the methods of obtaining and processing the data, Arbitron's policies related to the reporting of audience estimates, the statistical reliability of the estimates, important information and warnings regarding the use of Arbitron data, and a glossary of key terms. This information has been prepared in order to assist users to better understand the methodology by which Arbitron produces audience estimates, what the audience estimates published in the reports represent, and the limitations of the estimates. While comprehensive in scope, this document does not describe the full breadth of all Arbitron methodology or knowledge. There are elements of Arbitron's procedures that are too detailed to be described here, or that must remain confidential.

The methodology described herein is applicable only to Arbitron's syndicated *Radio Market Report*/Arbitron eBook services; methodology for Arbitron's national services, custom studies, special reports, research tests, or reports based upon Arbitron data provided by third parties may differ from the methodology described in this document. Users of such data are cautioned not to presume that any of the methodology described herein also directly applies to that data.

## Publication Schedule and Access

An updated version of the *Local Syndicated Services Description of Methodology* will be published four times each calendar year. Authorized users of Diary-based audience estimates will be provided access to an updated DOM with each release of Arbitron eBook. Authorized users of Portable People Meter™ (PPM™) data will be provided access to an updated DOM upon release of March, June, September, and December Arbitron eBooks.

Users of Arbitron data may access the DOM via the "Methodology" links in Arbitron eBook. Requests for access to previous editions of the DOM (and/or legacy Diary and PPM DOMs) will be considered on a case-by-case basis. Access to the DOM is a privilege reserved for authorized users of Arbitron data.

## Naming Convention and Scope

Each edition of the DOM will be named for the Diary Survey/PPM Reporting Months to which the methodology described was in use. The name of each edition of the DOM will be prominently placed on the DOM's cover, and will be included in the footer of each page.

Users of the DOM are urged to keep in mind that the DOM is, by nature, a "backwards-looking" document in that it describes the state of methodology for a specific time in the *past*. DOM readers are cautioned not to presume that any element of methodology described in a specific edition of the DOM will *also* refer to the methodology that may be in place at present, or at any time in the future.

Each edition of the DOM replaces all previous editions of the DOM, and remains in effect until the DOM is again revised and/or replaced by Arbitron. To the extent that any provision(s) contained in a DOM is inconsistent with, or conflicts with, any provision(s) contained in a previously published DOM, the current DOM is deemed to supersede all others.

To the extent that any provisions contained in a DOM are inconsistent or conflict with any provision published on the "Special Notices" page of a Market's most current *Radio Market Report*/Arbitron eBook, the provisions published on the "Special Notices" page are deemed to supersede the DOM.

Any revisions, modifications or amendments in methodology or service that occur subsequent to the publication of the DOM are generally announced on the Arbitron Web site and via the Pre-Survey Bulletin and/or similar publications provided to authorized users of Arbitron data. All such issued revisions, modifications or amendments become integral and incorporated parts of this text by reference.

## Copyright

The *Local Syndicated Services Description of Methodology* is copyrighted, and may not be duplicated or redistributed in either a digital or physical format without Arbitron's prior written permission.

## This DOM and Methodology Disclosure Standards

One of the metrics upon which Arbitron's conformity with the Media Rating Council's (see below) minimum standards is judged relates to the disclosure of methodology. Research companies such as Arbitron are required to publish a description of methodology once per year. The publication schedule for the *Local Syndicated Services Description of Methodology* exceeds that minimum standard.

## The Local Syndicated Services Description of Methodology



Accredited by  
Media  
Rating Council®

### What MRC Accreditation Means

The Diary-based Arbitron *Radio Market Report* service has been accredited by the Media Rating Council

(MRC) since 1968. Accreditation applies to all Markets measured as a part of Arbitron's Diary service that are located in the 50 United States and the District of Columbia.

The PPM-based Arbitron *Radio Market Report* service has been accredited by the Media Rating Council (MRC) in:

- **Atlanta**  
(accredited March 2011)
- **Cincinnati**  
(accredited March 2011)
- **Cleveland**  
(accredited March 2011)
- **Houston-Galveston**  
(accredited January 2007)
- **Kansas City**  
(accredited March 2011)
- **Milwaukee-Racine**  
(accredited March 2011)
- **Minneapolis-St. Paul**  
(accredited January 2010)
- **Philadelphia**  
(accredited March 2011)
- **Phoenix**  
(accredited March 2011)
- **Portland, OR**  
(accredited March 2011)
- **Riverside-San Bernardino**  
(accredited January 2009)
- **Salt Lake City-Ogden-Provo**  
(accredited March 2011)
- **St. Louis**  
(accredited March 2011)
- **Tampa-St. Petersburg-Clearwater**  
(accredited March 2011)

Arbitron is not actively seeking accreditation of the Puerto Rico Diary service.

To merit continued MRC accreditation, Arbitron:

1. Adheres to the Council's Minimum Standards for Media Rating Research;
2. Supplies full information to the MRC regarding details of its operation;
3. Conducts its measurement service substantially in accordance with representations to its subscribers and the Council; and
4. Submits to, and pays the cost of, thorough annual audits of accredited Arbitron services by CPA firms engaged by the MRC.

In addition to paying sizable audit charges, Arbitron provides office and file space for MRC auditors as well as considerable staff and computer time involved in various aspects of the audit.

Further information about the MRC's accreditation and auditing procedures can be obtained from:

Executive Director  
Media Rating Council, Inc.  
420 Lexington Avenue, Suite 343  
New York, NY 10170

## Arbitron Survey Areas

In its local syndicated services, Arbitron produces audience estimates for radio stations in up to four different survey areas. This chapter provides a broad overview of these areas and the key polices Arbitron uses to determine them. The information included in this chapter is for general information purposes only, and does not constitute the full body of Arbitron knowledge, policy, or procedure.

### The Metro

The Metro Survey Area or “Metro” is the radio market’s primary mercantile area. Generally, the Metro will include the market’s population center; it is bordered by areas with similar commuting patterns, and it is served by a common group of radio stations. The roster of counties Arbitron includes in a Metro may correspond to the roster of counties the U.S. Government Office of Management and Budget includes in its Metropolitan Statistical Area. (Arbitron notes details regarding the Metro’s conformity with the MSA in the report’s Special Notices).

An *embedded Metro* is a unique area for the buying and selling of radio that is wholly or partially within the boundaries of a larger Metro. Arbitron applies a sample-balancing model to the embedded Metro counties different from the model applied to the Metro’s non-embedded counties.

### Custom Survey Area

A Custom Survey Area Report, or “CSAR,” is a report prepared for a customized survey area specified by the party that commissioned the report.

### Designated Market Area<sup>®1</sup>

The Designated Market Area (i.e., “DMA”) is a geographic design used by Nielsen Media Research, Inc. for the measurement of television audiences. Nielsen Media Research, Inc. determines counties included in a DMA.

### Total Survey Area

A market’s Total Survey Area or “TSA” includes all Metro counties and may also include additional counties in proximity to

the Metro that are served by Metro radio stations. While Arbitron has suspended making changes to any TSA, it may create a TSA during market start-up according to a structured set of criteria, due to the narrowness of these criteria Arbitron will review them as needed.

### Market Name

An Arbitron market name is descriptive of the area surveyed and generally includes the name of a city or county in the Market. Arbitron may also include a state abbreviation to differentiate markets that have the same name or markets that include counties from multiple states.

### New Metro Survey Area Criteria

As a matter of policy, for an area to qualify as an Arbitron Metro, it must be composed of counties that have a combined population of at least 50,000 Persons 12+. Additionally, a minimum of 15 percent of commuting in the area must be intra-county or to another Metro county. Arbitron must also have credited at least 30 percent of all radio listening reported in Diaries returned from the counties to stations that are Home to the Metro. As a practical matter, Arbitron does not provide service to all possible Metros in the United States; for Arbitron to start a Metro service, the service must have a station subscriber or prospect.

### Metro Redefinition

To adapt a Diary Metro to the marketplace growing around it, Arbitron may “redefine” the Metro. Generally, Arbitron will recommend that a county be added to the Metro when the sum of percentages (expressed as whole numbers) of all quarter-hours credited to Metro stations in the county plus the percentage of commuting from the County to the Metro is “70” or greater. (In very rare instances, additional or alternate criteria may apply.)

Arbitron identifies counties that meet these criteria during a series of structured analyses. Arbitron will perform these analyses on a Metro once per year upon station request or as conditions warrant. Arbitron conducts these analyses for *all* Metros following publication of the results of each decennial U.S. census.

After careful review of Arbitron’s findings, the marketplace will either amend its licensing agreements to include the

additional counties in the Metro or leave the Metro’s roster of counties as is. By amending its license agreements to include the additional counties, subscribers also agree to the cost of additional sample needed to maintain the statistical reliability of the redefined Metro’s audience estimates (if applicable) and to a three-year freeze on additional redefinition analyses in that Metro.

Arbitron will announce the details of its PPM Metro Redefinition policy at a date well in advance of the opening of the PPM Metro redefinition window.

### Metro Cancellation

Arbitron may cancel a Metro service as business conditions warrant in Arbitron’s judgment. As a practical matter, however, it is unlikely that Arbitron will cancel a Metro service to which there is an active station subscriber or prospect.

Upon cancellation of a Metro, all Arbitron activity in the Metro in context of the *Radio Market Report* service ends, and the countdown on the subscriber’s window of access to the Metro’s data starts (as outlined in the conditions of the user’s license agreement with Arbitron).

Arbitron will place Diaries in a cancelled Metro’s counties during future surveys for its Nationwide, RADAR<sup>®</sup>, and *Radio County Coverage*<sup>™</sup> services.

In response to *extraordinary* conditions that radically changed the market or disrupted business within it, Arbitron may elect to cancel a Metro’s service in order to start a new, different Metro service in its place. As the loss of *all* historical data for the cancelled Metro is a byproduct of this approach, it may lead to additional marketplace disruption. Additionally, this approach is not available to all Metros, and may be limited by the terms and conditions of the subscribers’ licensing agreements with Arbitron.

### Reservation of Rights

All determinations regarding Arbitron Metro, TSA, and Custom Survey Areas remain solely and unilaterally with Arbitron; additionally, Arbitron reserves the right to modify, waive, or suspend any element of its policies as business conditions or research considerations warrant, in Arbitron’s judgment.

<sup>1</sup>DMA<sup>®</sup> is a registered service mark of Nielsen Media Research, Inc., and is used pursuant to a license from Nielsen Media Research, Inc.

# Sampling and Recruitment

This chapter provides a functional overview of Arbitron's methodology for the selection and recruitment of Diarykeepers and PPM Panelists. The descriptions included in this chapter are for general information purposes only, and do not constitute the full body of Arbitron methodology, policy, procedure, or knowledge.

## The Universe

The universe for Arbitron's Diary surveys is Persons 12 years of age and older.

The universe for Arbitron PPM Panels is Persons 6 years of age and older.

## Sample Frames

Arbitron surveys and Panels have two sample frames—a *random digit dial* and *address* frame.

The random digit dial frame includes all residential telephone numbers listed in current local telephone directories, plus all possible telephone numbers in hundred blocks that contain at least two listed residential numbers. In a Metro where the estimated college and/or military group quarters population is a minimum of two percent or 50,000 Persons 12+, Arbitron may elect to add additional telephone hundred blocks to the frame that serve the college or military population.

(Note: The sample frame for the Puerto Rico sample is working telephone exchanges rather than hundred blocks.)

The address frame is a list of residential addresses for which there is no record of a corresponding telephone number.

Arbitron mails a short questionnaire to all addresses on this list; households that return the questionnaire indicating that the household has no landline telephone service, or rarely or never answer the landline telephone, and provide Arbitron with a cellular telephone contact number are eligible for selection.

As a practical matter, Arbitron uses the address frame in its Diary surveys to sample households with cellular telephone service that do not also have landline telephone service or households that have both landline and cellular telephone service. (In the past, for ease

of conversation, Arbitron referred to the address frame as the "cell phone sample frame.")

Conversely, in PPM Panels, Arbitron uses the address frame to contact households with unlisted landline telephone service, households that have cellular service but no landline service, households with both cellular and landline telephone service, and households without telephone service.

## Sample Targets

### Diary Surveys

For each market segment, the sample target reflects that segment's proportion of the market's Persons 12+ population. Should a sampling unit be included in two segments of the same market, or be included in multiple markets, the segment may have multiple targets; Arbitron samples toward the highest target.

A Metro's sample target is a root function of the Metro's Persons 12+ population estimate. The formulas for Standard and Condensed Metro sample targets are:

#### Condensed Market Report

$$T_c = 500 \cdot (0.6 / \text{Metro P18-49 Population Percent})$$

Results rounded to next 10      No Maximum; Minimum = 500

#### Standard Market Report

$$T_s = \left( \frac{2.055}{\sqrt{\text{Metro Population 12+}}} \right) \times 1.65$$

Results rounded to next 10      No Maximum; Minimum = 610

(Note: These minimums may not apply to markets where subscribers elected to change the market's service level from Standard to Condensed after Fall 2007.)

The Non-Metro TSA target is determined from the total TSA Effective Sample Base (ESB) goal for each Market, based on the following formula:

$$\frac{1}{\text{TSA ESB Goal}} = \frac{(\text{Metro \% TSA Pop 12+})^2}{\text{Metro Target}} + \frac{(\text{N-M \% TSA Pop 12+})^2}{\text{N-M TSA Target} / .88}$$

The Effective Sample Base provides an estimate of the size of a simple random sample that would be required to provide the same degree of reliability as the sample for a complex survey such as an Arbitron Diary survey. The ESB goal is

equal to the Metro target plus some constant, generally between 100 and 400, depending on Market size. The resulting Non-Metro TSA target will usually be greater than the constant because of the higher sampling rate inside the Metro versus outside the Metro. In a few Markets with very small TSAs, the resulting Non-Metro TSA target may be set below 100.

DMA targets (where applicable) are equal to .88 of the corresponding Metro targets. If two or more standard radio Metros are located within the DMA and contained in the DMA name, the DMA target is the larger of the two Metro targets.

### PPM Panels

In concept, a Metro's In-Tab Panel target represents the number of different In-Tab Panelists that, in Arbitron's opinion, yield a statistically reliable sample for the Metro's Panel on any given media day. When determining the Metro's actual In-Tab target, Arbitron considers several factors including the Metro's population, additional sample purchased by the Metro's subscribers, and other factors. Arbitron reserves the right to adjust a Metro's PPM sample target as business conditions or research considerations warrant, in Arbitron's judgment. Arbitron reports the Metro's Panel Sample target in each issue of the *Radio Market Report*.

Due to methodological considerations, the percentage of households in Arbitron's surveys and Panels with cellular telephone service that do not also have landline telephone service is lower than is that group's representation in the population; as such, households that have cellular telephone service and no landline service, and households with both landline and cellular telephone service that rarely or never use the landline telephone, are undersampled by design. Arbitron's sample balancing procedures compensate for disproportionate representation of specific segments of the population in the In-Tab sample, thereby ensuring that the sample data more accurately reflect the behavior of the universe they represent.

# Sampling and Recruitment

## Differential Survey Treatments

A “differential survey treatment,” or “DST,” is a special sampling procedure intended to maximize participation in the survey by persons in demographic groups who have a history of underrepresentation in surveys. Arbitron’s differential survey treatments may consist of premiums, rewards, communications, and other techniques designed to encourage respondent participation.

Arbitron universally applies a DST for adults 18-34. Arbitron also applies a DST for Black persons, Hispanic persons, and both Black and Hispanic persons, in qualifying Metros. For a Metro to qualify for Black DST, the Metro’s Black P12+ population must represent 10% of the total population or number a minimum of 75,000, representing between 5% and 9% of the Metro’s population. For a Metro to qualify for Hispanic DST, the Metro’s Hispanic P12+ population must represent 10% of the total population or number a minimum of 75,000, representing between 5% and 9% of the Metro’s population.

## High-Density Areas

A High-Density Area is a zip code-defined sampling area within a Metro county where Arbitron applies a DST. For an area to qualify as a High-Density Black Area (HDBA), the sampling area’s population must be at least 35% Black and have a sample target of at least 21 Diaries. For an area to qualify as a High-Density Hispanic Area (HDHA), the sampling area’s population must be at least 40% Hispanic and have a sample target of at least 21 Diaries. In Metros with both Black and Hispanic DST, a zip code may qualify for both the HDBA and the HDHA by being at least 35 percent Black and at least 40 percent Hispanic; in such circumstances, the zip code is assigned to the high-density area that corresponds to the absolute higher of the two (Black or Hispanic) population percentages. There may be instances where Arbitron uses more discrete sampling unit definitions to expand or subdivide high-density areas; Arbitron denotes these sampling units as “HDA2s.” Criteria for establishing an HDA2 vary based on individual Metro considerations.

Arbitron ports a Metro’s Diary service High-Density Areas to the Metro’s PPM service. Arbitron may add additional HDAs to the PPM Metro as applicable.

(Note: to help it manage the logistics of its in person recruitment program, Arbitron may elect to subdivide select sampling units into zip-code based geo zones, while the geo zone model is an effective administrative tool, Arbitron does not use it for sample-balancing.)

## Geo-Split Counties

To account for a county’s topographical features that may affect listening in one part of a county as compared to another part of the county, or to mitigate the effect of variance in sample proportionality in one part of the county as compared to another part of the county, Arbitron may elect to subdivide the county into smaller pieces. Such subdivided counties are “geo-split” counties. Arbitron treats each of the subdivided pieces as individual sampling units. Arbitron generally names the geo-split counties by appending a direction identifier after the county’s name (e.g., Howard North and Howard South).

Arbitron may elect to geo-split a Diary-measured county as warranted. To help ensure a smooth expansion of in-person recruitment to a wider range of PPM-measured areas, Arbitron has suspended geo-splitting PPM-measured counties until further notice.

## Diary Placement Procedures

Arbitron selects telephone numbers randomly from the random digit dialing frame and cellular telephone numbers from those collected on returned questionnaires. Arbitron categorizes selected landline numbers based on whether the number is listed or unlisted and whether or not the number’s corresponding address is known or unknown. (Note: in Arbitron’s Puerto Rico service, telephone numbers are not addressed-matched.) Arbitron selects cellular phone numbers for calling randomly at the Metro level.

Arbitron’s Diary placement procedures consist of a complex set of scheduled communications and incentives intended to stimulate interest in the survey and to

encourage full survey participation by all individuals in the selected household. Arbitron attempts contact with selected households via multiple modes of communication; the mode used on a specific contact attempt depends upon that attempt’s position within the placement routine and Arbitron’s success at securing contact with the household during earlier attempts. To help ensure that the same procedures are applied to all applicable households, Arbitron manages telephone calling and material mailing with a centralized computer-assisted system; interviewers are provided with standardized scripts appropriate to the category of sample. Spanish-speaking interviewers and Spanish-language printed materials are available as necessary.

A key point of contact in this process is the “placement call.” During this call, the interviewer determines the household’s eligibility to participate in the survey by confirming that none of the individuals residing in the household are employed by a radio or television station or network, and that the household’s telephone does not serve more than nine individuals. An affirmative answer to either of these questions disqualifies the household from participation in the survey. If the interviewer determines the household is eligible to participate in the survey, the interviewer collects demographic information about the household (Arbitron uses this information to deploy applicable DST) and gains permission to mail the household Diaries.

Generally, Arbitron’s approach for recruitment is the same when calling landline or cellular telephone numbers. However, because respondents who granted Arbitron permission to call a cellular phone number are aware of Arbitron prior to any recruitment call, the nature of Arbitron’s interaction with that respondent may be different than with respondents contacted via a landline telephone number.

In continuously measured Metro sampling units, households that consent to participate in the survey but that do not return any Diaries to Arbitron are offered a “second chance” to participate in the survey. Applicable households are re-contacted by phone approximately four calendar weeks after the household was

## Sampling and Recruitment

first sampled to determine if the household's eligibility to participate in the survey has changed, to re-verify the respondent's name and address, and to gain consent to send new Diaries. During this interview, if the respondent indicates a number of persons in the household different from the number recorded during previous contact with the household, the new number is recorded; all other demographic data collected during the initial call with the household are retained. Should the household agree to this second invitation, a new set of Diaries will be sent to the household. Due to operational considerations, the survey week for second-chance households is generally six weeks after the household's original survey week.

### PPM Placement Procedures

#### Basics and Alternates

Arbitron randomly designates PPM sample as "Basic" or "Alternate." This distinction helps Arbitron organize the sample and focus recruitment efforts while preserving Panel stability. Arbitron designates Basics and Alternates for the random digital dial frame at the sampling unit level and for the address frame at the Metro level.

#### Basic Recruitment

Arbitron's procedures for the recruitment of Basics consist of a complex set of scheduled communications and incentives intended to stimulate interest in the Panel and encourage the household to participate. Arbitron attempts contact with selected households via multiple modes of communication; the mode of communication used on a specific contact attempt depends upon that particular sample's category, that attempt's position within the recruitment routine and Arbitron's success at securing contact with the household during earlier attempts. To help ensure that the same procedures are applied to all applicable households, Arbitron manages telephone calling and material mailing with a centralized computer-assisted system; interviewers are also provided with standardized scripts appropriate to the category of sample. Spanish-speaking interviewers and

Spanish-language printed materials are available as necessary.

A key point of contact in the Basic recruitment process is the "sample prep" call. During this call, the interviewer describes Arbitron to the householder and determines the household's eligibility to participate in the Panel by confirming that none of the individuals residing in the household is an employee of a radio or television station, a radio or television network, or an advertising agency. The interviewer also confirms that the primary telephone number for the residence serves fewer than 10 unrelated and fewer than 17 related individuals. (Note: not all household members may be eligible to participate in the Panel. For example, Arbitron will not provide a Meter to household members who are under the age of six, who stay at a location other than home more than four nights per week, or who are physically or mentally unable to participate.) If the household agrees to participate in the Panel, the interviewer provides the respondent with additional information and gains permission to mail the household PPM household equipment.

Basic households that refuse to participate in the Panel are sent a conversion mailing that is intended to encourage the household's participation in the Panel. Households that receive the conversion mailing and then agree to participate in the Panel may also receive an additional premium that will be sent to the household after the household is successfully installed. During the follow-up calls to the household that complement the conversion mailing, the respondent is made aware of this promised incentive. The amount of promised incentive offered to households may vary within the same Market, and from Market to Market.

Arbitron may also attempt to recruit a Basic household to participate in the Panel via a visit to the household (rather than a telephone call). During an in-person recruitment visit, the Arbitron membership representative will attempt to recruit the household to participate in the Panel. If the household agrees to participate, the membership representative collects demographic information about the household members, provides the household with

PPM equipment, and assists with the installation of the equipment before leaving the household. Households eligible for in-person recruitment are those that are not in Arbitron's random digit dial sample frame, those that did not respond to the questionnaire Arbitron mailed to the household, or those households that did respond to the questionnaire, but that did not provide a contact telephone number. At the time of this writing, Arbitron has elected to use in-person recruiting in a subset of high-density areas in select PPM Metro counties. Arbitron plans to expand use of in-person recruiting to other areas and Metros in future report periods (Arbitron will communicate details related to the expansion of in-person recruiting to the marketplace in advance).

Arbitron periodically re-calls Basic households that refused to participate during earlier recruitment calls to encourage the household to participate.

#### Alternate Recruitment

Should a Basic household refuse to participate in the Panel, Arbitron may attempt to recruit an Alternate household to take its place in the Panel.

The Alternate recruitment process starts with the sample prep call. During this call, the interviewer describes Arbitron to the householder and verifies that the household is eligible to participate in the Panel. The interviewer also asks some general questions about the household, including if any member of the household is between the ages of 18-24, 25-34, or 35-44, the race/ethnicity of the householder, and (in applicable Metros) the primary language spoken in the home. Upon completion of the sample prep call, Arbitron sets the Alternate household aside until needed (if ever).

Arbitron categorizes all Alternate households into one of 32 mutually exclusive categories based on the household's demographic information. As business conditions warrant, Arbitron randomly selects Alternate households for recruitment from the appropriate category. Alternate households that Arbitron does not select for recruitment are retired from the pool of Alternates after approximately six months. As Arbitron designates Alternate households on an ongoing basis, there will always be

## Sampling and Recruitment

a pool of Alternate households from which Arbitron may select, as necessary.

### The Collection and Ascription of Demographic Information

Arbitron weights PPM in-tab to the universe based upon a key set of demographic variables; for a Panelist to be eligible to be in-tab, the Panelist must provide Arbitron with all of the information necessary for weighting.

Arbitron also collects additional demographic information that is not used in sample weighting. While unlikely, it is possible that a household or Panelist will be recruited without having provided the full complement of this non-essential demographic information. To account for missing data, Arbitron may ascribe values for missing household income, personal education, and personal birth-month to Households or Panelists as necessary. As these variables are not used for weighting purposes, Arbitron's audience estimates are not affected, in any way, by the ascription of values for such missing information. (Users of the data should be mindful that Arbitron may use these characteristics as weighting variables in select Arbitron services and reports; Arbitron discloses ascription rates in applicable reports.)

### Panel Tenure

The maximum amount of time that a household may participate in the Panel is approximately 24 months from the date that the household agreed to participate. Arbitron's experience, however, is that most households voluntarily leave the Panel before that term of eligibility expires. Arbitron may also elect to remove a household from the Panel prior to the end of the household's eligibility in circumstances where the household is not compliant with Arbitron's instructions, when the household moves out of the Metro, or when other changes in the household make it no longer eligible to participate.

As a practical matter, Arbitron recruited all households during a Metro's pre-currency report periods and the calendar months leading up to pre-currency around the same fixed point in time. To prevent disruption to the marketplace that

would have resulted from the "mass exit" of these households from the Panel also around the same point in time, Arbitron gradually removes these households from the Panel over the course of 18 to 30 months. (Note: in Metros that fully converted to PPM currency prior to calendar year 2009, Arbitron removed households from the Metro's first Panel gradually over an 18- to 39-month period.)

### The Houston-Galveston Panel

The sampling methodology for the Houston-Galveston Panel is unique to that Panel, and reflects the Panel's status as the first PPM demonstration Panel.

The installed sample target for the Houston-Galveston Panel is 2,160 Persons aged six and older residing in the Houston-Galveston DMA, with approximately 95 percent of the sample target allocated to Houston-Galveston Metro counties.

The Houston-Galveston sample frame is an address list that includes nearly all residential households in the DMA. Based on census blocks, Arbitron stratifies the addresses by county, race, ethnicity, the median age of the householder, and the householder's employment status.

Basic sample is selected randomly from within the frame using a systematic random sampling procedure. Next, Arbitron selects a predetermined number of supplemental addresses within the same zip+4 area as the Basics; Arbitron designates these as "reserve Basics" in the event that the Basic is ineligible to join the Panel.

Arbitron designates the remaining addresses in the sampling point as Alternates. As such, an Alternate is always within close geographic proximity to its Basic. If the Basic cannot be recruited, Arbitron attempts to recruit the Basic's Alternate. To be eligible to replace a Basic, an Alternate must match the Basic on the set of pre-assigned matching criteria. The matching criteria may include if the household subscribes to a cable television or satellite television service; the presence of children in the household under age 18; and/or the householder's employment status.

Alternate households must match the Basic on two of these criteria, as determined in advance by Arbitron.

Two months prior to recruitment, Arbitron mails Basic households the sample preparation questionnaire with a monetary incentive, as well as a promised incentive for completion of the questionnaire. The one-page questionnaire contains questions about media usage and asks for the household's telephone number.

Pre-recruitment calls begin when recruitment brochures are mailed to the households. The purpose of pre-recruitment calling is to make contact with households in an effort to alert them that a recruitment brochure has been mailed to the household. During this call, Arbitron also secures a commitment from the respondent to respond to the mailing when it is received and notifies the household that it will be re-contacted.

Shortly after the first pre-recruitment call is made, the household is re-contacted to verify the household's address, secure a strong commitment on behalf of all eligible household members to participate and to arrange for the delivery of the household's equipment.

Arbitron first attempts to recruit all households via telephone. Arbitron may also elect to attempt field recruitment of select Basic and Alternate households via an in-person visit to the household by an Arbitron recruitment representative.

When a Basic household refuses to participate in the Panel after an attempt at field recruitment, a matching Alternate is recruited and installed. A conversion letter is then sent to the refusing Basic household. If the Basic household decides to join the Panel, the Alternate household is removed from the Panel.

Sampling points that were ineligible to join the Panel are expired as soon as replacement sample is available. Near the end of their second year of installation, existing address-based sampling points are replaced in a gradual, balanced and random manner. Sampling points that are eligible to be installed are expired over a period of 60 days; during this transition period, the sampling points are randomly ordered and expired as new sample is installed

# Sampling and Recruitment

within that sampling point's county. After 60 days, all remaining sampling points are expired.

## The Sample and Custom Survey Area Reports

Arbitron allocates sample to each sampling unit in a Custom Survey Area (CSA), based upon each sampling unit's proportion of the CSA's total estimated 12+ population. Should a CSA sampling unit have more than one sample target, Arbitron uses the highest of the targets. In cases where the sampling unit receives its highest sample target from the CSA, Arbitron may order additional sample to meet that target. Arbitron designates sample ordered exclusively for a CSAR by appending the word "Special" to the county name (e.g., "Floyd County Special, Georgia"). CSAR sampling units are eligible for differential survey treatments as described above, with the exception of regional or state CSARs, which are ineligible for DST as a whole.

## Sample Performance Metrics

A Diary survey's *consent rate* represents the proportion of sampled households that agree to participate in the survey. Consent rate is determined by dividing the number of households that agree to participate in the survey by the number of households asked to participate.

A Diary survey's *return rate* represents the proportion of In-Tab Diaries returned to Arbitron compared to the number of Diaries mailed to consenting households. Return rate is determined by dividing the number of In-Tab Diaries by the number of Diaries mailed.

A Diary survey's *unweighted response rate* is determined by dividing the number of In-Tab Diaries by the estimated number of persons in usable households. "Estimated usable persons" represents the number of known persons in consenting households plus an estimate of the number of persons residing in non-consenting or unreachable households. As such, Arbitron's response rate is an adjusted metric, with both consent and return rate factored into the response rate calculation.

For a survey's *weighted response rate*, the number of In-Tab Diaries and the estimated number of persons in usable households are multiplied by a county-specific factor representing a household's probability of selection within the county. The county-specific factor is reflective of the relationship between the usable sample records and the population and is calculated based on sampling for the entire reporting period.

With the implementation of Arbitron's second-chance Diary sampling methodology, some households are sampled in consecutive surveys. Those respondents are not counted in the response rate for the first survey, but are counted in the response rate for the second survey.

*Sample Performance Indicator (SPI)* is one of the appropriate metrics with which to measure a Panel's sample performance. Arbitron tracks and reports an average daily SPI and a monthly SPI for both households and persons.

*Household SPI* is determined by dividing the number of reporting landline Basic households by the number of all eligible Basic households for the applicable reporting period. To qualify as a reporting household on a given media day, at least one member of the household must be in-tab on that day.

*Persons SPI* is determined by dividing the total number of Basic Persons from the landline sample that were in-tab at any time during the applicable report period by the total number of estimated persons in Estimated Usable Basic Households. Arbitron estimates the eligibility of refusing sample based upon the outcomes of completed sample calls. Additionally, when estimating the number of Basic Persons in Estimated Usable Basic Households, Arbitron assumes that, on average, there is the same number of persons in refusing/non-contacted Basic households as in households that agree to participate in the Panel. To qualify as in-tab, a Panelist must have passed the minimum qualification standard for the applicable report period.

Arbitron also reports a *Unified Average Daily Persons Sample Performance Indicator (USPI)* that combines the RDD SPI described above with the sample

performance of the address-based supplemental sample (which primarily consists of cell phone sample).

*Designated Delivery Index (DDI)* is a measure of sample delivery in Arbitron's Diary surveys and PPM Panels that compares in-tab to the In-Tab target. DDI is independent of proportionality and may be used to measure sample delivery for an entire Market, or for specific demographic or geographic subgroups. DDI reflects the extent to which the In-Tab sample aligns with "perfect" sample distributions based on the universe and the applicable In-Tab target. Unlike a traditional proportionality index (which measures share of In-Tab sample by demo compared to the universe), DDI is not a share statistic and is not affected by higher or lower actual In-Tab results for other demos. DDI is determined as follows:  $[(\text{Demo or Geo In-Tab}) / (\text{Demo or Geo Population Percent} * \text{Market Total Target})] * 100$ . For Diary surveys, DDI is determined for Persons 12+ based on the whole 12-week survey In-Tab sample; for PPM Panels, DDI is determined for P6+ using Average Daily in-tab.

## RESERVATION OF RIGHTS

ARBITRON RESERVES THE RIGHT TO PROSPECTIVELY OR REACTIVELY CHANGE, MODIFY, WAIVE, OR SUSPEND ANY ASPECT OF THE METHODOLOGY, POLICIES, OR PROCEDURES DESCRIBED HEREIN, AND/OR IMPLEMENT NEW POLICY OR PROCEDURE, AT ANY TIME AS RESEARCH CONSIDERATIONS OR BUSINESS CONDITIONS WARRANT, IN ARBITRON'S JUDGMENT.

# Station Encoding

Arbitron's PPM service is based on an "encode-decode" model. When a PPM Panelist listens to an encoded station, his or her Meter stores the information encoded into the station's signal by the station's PPM encoder. Arbitron aggregates this information with information collected from other Panelists and uses it to prepare PPM audience estimates. This chapter provides a broad overview of Arbitron's PPM encoding technology and key policies Arbitron developed to support it. The descriptions contained in this chapter are for general information purposes only, and do not constitute the full body of Arbitron knowledge or policy.

## How Encoding Works

A station's PPM encoder inserts information into a station's audio by adding very small amounts of energy to the station's signal; the station's audio masks the sound emitted by this energy. During this process, the encoder is continually analyzing the audio to determine the amplitude at which to insert the encoding so that it is inaudible. The types of information represented in a station's encoding include a station identifier, time stamps, quality assurance markers, and additional information. It is possible for Arbitron to layer multiple streams of encoding in the same audio.

## Stations Invited to Encode

In Metros that converted to currency PPM measurement prior to January 2010, Arbitron invited all radio stations that are Home to the Metro, or to one of the market's non-Metro DMA counties, to encode. In Metros that converted to PPM measurement after January 2010, Arbitron invited all stations that have signal penetration into one of the Metro's counties to encode. Arbitron may also have invited other stations to encode as business conditions warranted in Arbitron's judgment. Media outlets other than radio stations may have been encoded for purposes other than the currency *Radio Market Report* service.

## The Encoding Agreement

The Encoding Agreement is a contract that establishes an encoding relationship between a radio station and Arbitron. By signing the agreement, the station agrees to all of the terms and conditions of the

agreement, including those relating to the authorized uses of encoding equipment.

## Encoding Equipment

The minimum package of PPM encoding equipment that a station must install includes a primary encoder, a back-up encoder, and an encoding monitor. Arbitron may provide additional equipment to stations as necessary.

## In-Station Monitoring

It is the responsibility of an encoded radio station's staff to ensure that there is encoding in the station's signal at all times. To that end, Arbitron provided each station with an encoding monitor. The encoding monitor is a piece of audio equipment that is perpetually "listening" to the encoded station's audio for encoding; if the monitor does not hear the station's encoding, it will alarm. Arbitron recommends that a station integrate the encoding monitor into its critical alarm system(s). Arbitron does not adjust an encoded radio station's audience estimates for periods when the station is on-air but not encoding; as such, many encoded radio stations have made encoding monitoring a priority.

## The Unique CBET Policy

The formal name of Arbitron's PPM encoding technology is Critical Band Encoding Technology or "CBET." Arbitron's firm policy is that all radio stations eligible for reporting in the PPM *Radio Market Report* service must transmit its own unique CBET encoding. As such, a station may not re-transmit the PPM encoding of any other station or provide encoded audio to any other station for re-transmission. As a practical matter, this means that all stations must encode with their own encoding equipment. Failure to comply with the Unique CBET Policy may constitute Rating Distortion. (Note: The Unique CBET policy does not apply for periods that include Emergency Alert System (EAS) messages, or to translators, boosters, or repeaters.)

## Equipment Audits

Arbitron regularly audits the performance of its encoders deployed in the field. Should an equipment audit indicate that an encoder may be operating at a less than optimal level, Arbitron may contact station engineering staff to discuss the

encoder's operation and help the station resolve (to the greatest extent possible) any factors adversely affecting the encoder's operation.

## Unencoded Intervals

When an encoded radio station is on-air but is not encoded, the station receives no listening credit. Arbitron refers to such a period as an "unencoded interval." Arbitron includes the details of all station-confirmed unencoded intervals in the Special Notices section of the applicable *Radio Market Report*.

## "Double Encoding"

A station is "double encoding" when more than one of the station's encoders are simultaneously encoding the station's audio. Should an Arbitron encoder audit suggest that a station was double encoded, Arbitron will note the details of the double encoding in the Special Notices section of the applicable *Radio Market Report*. Because a station generally receives credit for each quarter-hour of listening when it was double encoded, it is not possible to estimate the degree to which double encoding did or did not affect the station's audience estimates.

## Station Requalification

Approximately every two years after a station installs its encoding equipment, Arbitron reaches out to the station for a quality assurance review of the station's encoding installation. During this "requalification" process, the station verifies that its Arbitron signal flow diagram is up-to-date and reflects (to the greatest degree possible) information that the station has provided to Arbitron. If necessary, Arbitron engineering staff will update the station's diagrams, and assist station engineers with the optimization of installed equipment or with the installation of new equipment (if necessary). The requalification process concludes with Arbitron verifying that each of the station's signal paths is encoded. Once testing is complete, Arbitron provides a letter to the station's General Manager indicating that the station's requalification is complete.

During the window that Arbitron re-qualifies stations in a market, Arbitron also formally re-invites stations in that market to encode that declined Arbitron's previous invitations.

## Panelist Equipment and Panel Relations

This chapter provides an overview of the equipment provided to Panelists and the processes by which Arbitron interacts with them. The descriptions included herein are for general purposes only, and do not constitute the full body of Arbitron knowledge, policy, or procedure.

### Panelist Equipment

The Portable People Meter is a small electronic instrument that resembles a pager. Inside the Meter are a battery, a microphone, an accelerometer, and data storage technology. The Meter is perpetually “listening” for information that has been encoded into the audio of radio stations. The Meter captures this information, appends additional information to it, and stores it until the Panelist docks the Meter in its recharging base. At the predetermined time each day, the information is pushed to Arbitron.

PPM household equipment is a “plug and play” system; the household needs no special knowledge or tools to install it. Arbitron verifies successful installation of the equipment via a quality assurance test. A household is not eligible to be in-tab until Arbitron completes this test.

### Panelist Instructions

Arbitron instructs a Panelist to wear or carry his or her Meter during waking hours and dock the Meter in its base unit before retiring for the day. The Panelist must comply with these instructions to remain in the Panel. Circumstances, such as extended travel or illness, may prevent a Panelist from being able to comply with Arbitron’s instructions; Arbitron considers such circumstances when measuring the Panelist’s compliance.

The PPM media day begins at 4AM and continues until 4AM the next day. As a practical matter, Panelists who wake up and go to bed according to a standard schedule transfer “one day’s worth” of data to Arbitron each day. Arbitron’s processing software ensures that media exposure captured by Panelists who wake up and go to bed according to a nonstandard schedule that overlaps multiple media days are credited to the appropriate media day.

### Panel Relations

Through a set of proprietary and/or patented processes, Arbitron monitors

and, to the extent possible, maximizes Panelists’ compliance with its instructions. These processes and techniques are a key quality control of the end-to-end PPM system; by maintaining a relationship with Panelists, Arbitron helps to improve the representativeness of the Panel.

### Minimum Compliance Standard

The term “minimum compliance standard” specifically refers to the number of hours per media day that a Panelist must wear or carry his or her Meter to be eligible to be included in that media day’s In-Tab sample. For Panelists 18 years and older, the minimum compliance standard is eight hours; for Panelists six to 17 years of age, the minimum compliance standard is five hours. Arbitron does not disclose any information regarding the minimum compliance standard to Panelists.

### Incentives and Premiums

Arbitron compensates Panelists for their cooperation via a complex and multi-tiered set of incentives and premiums. The amount, form, and timing of these distributions may vary from household to household, from demo to demo, and from Market to Market. In select Markets, Arbitron may take other additional steps to increase compliance rates for certain demographic groups. Arbitron bases its incentive and premium structure solely upon the Panelist’s compliance with Arbitron’s instructions; there is no connection between the type or amount of media to which the Panelist is exposed and the incentives and premiums offered to the Panelist. Arbitron provides clear verbal and written communications to Panelists to this effect.

### Demographics Update

A Panelist’s demographic characteristics may change during the Panelist’s tenure in the Panel. Arbitron has deployed a set of procedures and processes to help ensure that its record of the Panelist’s demographic information is up-to-date. Arbitron automatically updates the Panelist’s age during his or her birth month. Every 135 days, Arbitron re-confirms each Panelist’s demographic information (excluding gender, birth month, birth year, and Hispanic origin/race). Additionally, Arbitron re-collects *all* of a household’s demographic information approximately one year after the household enters the Panel. Arbitron

processes interim updates to the household’s demographic information upon learning of the change.

### Panelist Tenure

As a matter of policy, the maximum amount of time a Panelist can be in the Panel is 24 months. For additional detailed information, see the “Panel Tenure” section in Chapter Three “Sampling and Recruitment.”

### Deinstallation

Arbitron may elect to deinstall (e.g., remove) a household or a Panelist from the Panel at any time as business conditions warrant in Arbitron’s judgment. Examples of circumstances that may result in deinstallation include chronic failure to comply with Arbitron’s instructions, breeches of confidentiality or Meter security, and/or any other circumstance that (in the interest of research quality) requires Arbitron to deinstall the Panelist or household. Arbitron carefully considers such circumstances on a case-by-case basis, taking into account the nature and extent of the circumstance.

### Operational Status Codes

For operational purposes, Arbitron assigns each Panelist a status code used to denote the Panelist’s disposition inside of its data processing systems.

*Online* Panelists are eligible to be included in-tab and are included in the count of installed Panelists.

Arbitron classifies a Panelist as *offline* when it is necessary to exclude the Panelist from in-tab without de-installing the household (for example, during the day that the Panelist is waiting for replacement equipment). An offline Panelist is not eligible to be in-tab, but is included in the count of installed Panelists.

In a very limited set of circumstances, Arbitron may also classify a Panelist as *on hold*. An on hold Panelist is a “panelist in waiting.” An on-hold Panelist has installed the equipment, is complying with Arbitron’s instructions, is receiving incentives and coaching, but is not eligible to be in-tab and is excluded from the count of installed Panelists.

## Diary Processing

This chapter provides an overview of policies, procedures, and operational processes related to the editing of data contained in Diaries returned to Arbitron. The descriptions contained in this chapter are for general information purposes only, and do not constitute the full body of Arbitron knowledge or policy.

### The Radio Listening Diary

The instrument for Arbitron surveys is the Arbitron Radio Listening Diary (hereafter referred to as “the Diary”). The Diary is a pre-alerted, telephone-placed paper survey that is mailed to consenting households. The Diary contains an instructions page, a “daypage” for each day of the survey week, and page(s) for the collection of demographic/lifestyle information. Space is also provided for the respondent to write down comments or observations. A simple checklist is printed on the inside back cover of the Diary; this checklist is intended to encourage the completion and timely return of each Diary. The Diary is a postage-paid mailer; upon completion of the survey week, the respondent must seal the Diary and place it in the U.S. Mail.

### The Qualitative Diary

The Qualitative Diary is an expanded version of the Diary that contains additional personal and/or household lifestyle and consumer behavior questions. These qualitative questions focus on product categories and types of stores, rather than on specific brands and store names. Information collected in the qualitative section of the Diary may be used to produce non-audience information as applicable.

### The Bilingual Diary

Both standard and qualitative Diaries are produced in a bilingual format (Spanish-English). Bilingual Diaries are sent to all households where the respondent has stated that a person of Hispanic origin resides in the household and/or when the respondent requests a bilingual Diary. In Arbitron’s Puerto Rico service, bilingual Diaries are sent to all survey participants. In the bilingual Diary, respondents are also asked whether English or Spanish is the language primarily spoken in the home. In some

Markets, the response to this question may be used for sample weighting.

### Diary Format and Instructions

The open-ended format of the daypages allows Diarykeepers to record the essential details of each radio listening occasion, including start and stop times, station identifier(s), AM/FM indicator(s) and listening location(s), or to check a box that indicates that the respondent did not listen to radio that particular day. The Diary’s instructions ask that respondents “...record all your listening...,” with listening defined as: “...any time you can hear a radio—whether you choose the station or not. You may be listening to radio on AM, FM, the Internet or satellite.”

### Demographic Information Used for Sample Weighting

In the demographic/lifestyle section in the back of the Diary, respondents are asked to provide their gender, age, employment status, race, ethnicity, and, where applicable, primary language spoken in the home (e.g., English or Spanish); this information may be used for sample weighting purposes. Any Diary that is missing age and/or gender information is routed to a recall center prior to further editing. If the re-interview does not result in obtaining the missing information, then the Diary is determined to be unusable. Values for missing language, race, or ethnicity may also be collected during Diarykeeper re-interview. If Arbitron does not collect this information during re-interview, a value for the missing information may be assigned to the respondent based upon household information obtained during Diary placement, the responses of other persons in the household, or other characteristics of the non-responsive Diarykeeper. If missing demographic information that is necessary for sample weighting cannot be either collected from the respondent or assigned to the respondent based upon available information, then that respondent’s Diary is excluded from the In-Tab sample.

### Overview of Diary Processing

Upon receipt of Diaries from the field, electronic images of all Diary pages are captured and downloaded into Arbitron’s Diary Processing systems. The images are then forwarded to internal Diary processors or outsourced data processing vendors who key-enter the information represented on the daypages into Arbitron’s databases. Once all of the Diarykeeper responses have been key-entered, the processing system groups the responses into complete listening entries and assigns credit for a subset of entries to the appropriate radio station.

Next, Arbitron’s Diary Processors assign credit for entries that were not credited by the system to the appropriate station. Arbitron’s Diary processors use a complex suite of online tools to credit Diaries. These tools cross-reference information contained in the Diaries with information collected from radio stations. All elements of the daypage are accounted for in this crediting process, including start and stop times for each listening occasion, station identifiers, station band, and listening location. The online tools used to assign credit to stations reflect the most current station information on file with Arbitron. Crediting decisions are made using station information applicable to the particular sampling unit from which the Diary was received. Time edits are made according to established procedures.

Once the information has been edited, a detailed analysis of a Market’s crediting commences. During this analysis, crediting anomalies outside of acceptable tolerances are identified and reviewed, with corrective action taken, as necessary. Upon completion of the Market analyses, the data are transferred to weighting and reporting modules.

### Diary Usability

Arbitron makes a reasonable effort to use all returned Diaries. There are conditions, however, which exclude a Diary from being included in the In-Tab sample. Arbitron tests these conditions via a series of usability checks deployed at various points of the Diary processing workflow; each check serves as a “gate” through which the Diary must pass to proceed to the next stage of processing.

# Diary Processing

Examples of conditions that would exclude a Diary from the sample include if the Diary was postmarked too early during the survey week, if the Diary was incomplete, or if the Diary contained a total number of unweighted quarter-hours that exceeded the established threshold. Note: these examples are for illustrative purposes only, and do not constitute all of Arbitron's Diary usability checks. To complement its usability checks, Arbitron also has procedures in place intended to prevent Diary tampering; these procedures, because of their sensitive nature, remain confidential.

Diaries returned to Arbitron that are excluded from the In-Tab sample are classified as "unusable" and are coded as such in Arbitron's Diary processing systems. Data pertaining to unusable Diaries are provided to external auditors and the Media Rating Council, but are not available to users of Arbitron data.

## General Diary Entry Crediting Procedures

Diarykeepers record their radio listening by utilizing a variety of station identifiers, including call letters, exact frequencies, Station Names, the name of a program, or channel names and numbers. These identifiers may be listed alone or in combination. Arbitron's Diary creditors and Diary processing system use a comprehensive body of highly detailed edit procedures to assign credit for the Diary entries to radio stations. Following is a summary of several key Diary edit procedures. Due to the number and complexity of Diary edit procedures, it is not possible to provide a detailed or comprehensive overview of all procedures in this venue. Additional information regarding specific edit procedures is available to users of Arbitron data upon request.

### Station Reach

In Diary surveys, radio stations are eligible for listening credit in any county (or county equivalent) where the radio station may be heard. Arbitron estimates the reach of AM and FM radio station signals based upon several factors, including the station's technical specifications on file with the FCC (including effective radiated power [ERP]

and height above average terrain [HAAT]), information included in Diaries returned from the county during previous surveys, and information provided to Arbitron by other vendors. Policies related to the definition of a station's reach equally apply to stations of the same band and class; however, due to the nature of digital broadcasting, different procedures are used to determine the reach of some digital stations and their analog counterparts.

### Station Identifier Codes

In the process of assigning credit for listening entries, an ID code (c = call letters, f = frequency, s = Station Name, etc.) is attributed to each credited entry. These codes are useful for analysis purposes or as a basis for selecting Diaries via other Arbitron services, and in the data retrieval systems used in Arbitron's Client Services suite.

### Unidentified Listening

Diary entries that cannot be credited to any specific radio station via any established Diary edit procedure are credited as "Unidentified Listening."

### The 1% Rule and Ascription

In circumstances where two or more stations are eligible for credit of the same Diary entry, credit is assigned via the "1% Rule." A station "makes 1%" if it was mentioned in at least 1% of the In-Tab Diaries returned from a county during the preceding available survey year. The 1% Rule directs that if only one of the stations eligible for credit of the entry "makes 1%," credit is assigned to that station. If two or more stations are eligible for credit of the same Diary entry, and both stations make 1%, credit is determined through ascription. (Ascription is a standard statistical procedure that assigns values to one group from another group, based on established similarities in the characteristics of the two groups. Specific to Diary crediting, ascription is a procedure that uses a station's past performance to make crediting decisions.)

### Aberrated Call Letter Edits

Diarykeeper confusion over call letters, AM/FM bands, or unclear handwriting

and subsequent interpretation by Diary processors may result in key-entered call letters that are not licensed, or are the calls of a radio station that does not reach into the county where the Diary was placed. These instances are referred to as "aberrated call letters." Through an automated series of sequential and logical steps, Arbitron's Diary processing system assigns credit to radio stations for entries of aberrated call letters.

### The "Blank Station" Edit

A "blank station" entry is a Diary entry that does not include a station identifier. In certain circumstances, credit may be assigned to radio stations for blank station entries (based upon patterns of listening elsewhere in the Diary).

### Digital Station Edit Procedures

While digital station edit procedures generally mirror procedures used to credit analog stations, due to the nature of digital broadcasting and the physical characteristics of digital stations, some digital station-specific edit procedures may apply. Conversely, some of the edit procedures used to credit analog stations may not be applied to digital stations.

### Special Handling

Localized conditions may arise where, in Arbitron's judgment, the application of standard edit procedures may not result in the appropriate assignment of credit. When such instances are sustained over multiple surveys, Arbitron conducts a detailed, threshold-based analysis to determine whether special crediting procedures are warranted. Should a special procedure be warranted, Arbitron informs the affected station(s). Special Handling rules are audited annually to determine if the rule should be retired.

### Modeled Daypages

The threshold for the minimum number of completed daypages in an In-Tab Diary is five. In Diaries with one or two blank daypages, final credit results of reported listening on other days in the Diary are imputed to the blank days. Listening is imputed based upon a predetermined, empirically derived substitution matrix. Diaries with both Saturday and Sunday blank are classified as unusable.

## Diary Processing

### The Diary Comments Page

The last page of the Diary is referred to as the "Comments Page." This page contains an open-ended section titled "Your Opinion Counts," which is available for Diarykeepers to provide feedback or additional information regarding their radio listening. Comments Page information is not key-entered into Arbitron's databases, nor is it routinely considered during the Diary crediting process. Comments page information may be consulted during Diary crediting if specifically directed to do so by the Diarykeeper elsewhere in the Diary. The Comments Page information section may also be consulted for purposes of quality assurance during re-crediting processes. Diaries containing comments are coded so that they can be readily identified via select Arbitron services.

### Qualitative Diary Editing

Manual and computer edit procedures are applied for the qualitative questions at the back the Diary. Manual edits applied to qualitative questions are primarily concerned with clarifying Diarykeeper handwriting and reconciling any stray marks; qualitative question crediting is generally completed by computer edits. In instances where more than one value is marked in response to a question, such as number of visits to a restaurant, the highest value marked is accepted. Examples of other qualitative edits include that checked item(s) take precedence over items without a check or an unanswered response, and that a "yes" response takes precedence over a "no" response. Note: the questions at the back of a Diary regarding gender, age, employment status, race, ethnicity, and dominant language preference are not considered qualitative questions; responses to these questions are processed in advance of and separately from, answers to qualitative questions.

While the majority of Diarykeepers complete the qualitative questions, some non-response is expected. In order to provide a complete data set, ascription is used to obtain a response for any question left unanswered. For each unanswered question, the non-response Diarykeeper is matched to similar Diarykeepers who answered the

question. Matching is based on one or more predictive characteristics, such as age and gender. A given response to the question is then ascribed for the non-response Diarykeeper.

### Quality Assurance

To maintain high accuracy rates, Arbitron conducts daily reviews of each processor's work, including the work of processors employed by vendors. A random selection of each is thoroughly reviewed by a team of quality specialists who maintain a detailed log of any errors discovered. Information concerning errors is used to spot any trends in types of errors and to signal the need for remedial training or other measures to ensure that accuracy rates remain high. In addition to daily quality assurance reviews of each individual's work, overall edit accuracy rates are monitored via separate, monthly audits of a random sample of Diaries from that month's total Diary base.

### Electronic Diary Review

Licensed users of Arbitron data (or their designated representative) may visit Arbitron's Client Services Suite in its Columbia, MD, headquarters to review Diaries. During Diary review, visitors are provided access to the electronic images of all Usable Diaries and the Diaries' corresponding credited listening information. Note: images of Diary daypages may not be photographed, printed, copied, or otherwise directly reproduced during Diary review. Arbitron reminds visitors that Diary reviews must be scheduled in advance of the day of the visit, and that the review may be scheduled for any time after the release of a report (subject to the limitation of the Retention of Survey Materials policy).

### Retention of Radio Survey Materials

The electronic images of all Diaries returned to Arbitron are retained for one year from the date of the release of the last Arbitron syndicated report that includes information contained in the Diaries. Paper Diaries are generally retained for a period of 60 (sixty) days after the release of the final *Radio Market*

*Report*/Arbitron eBook upon which the data are based. Upon expiration of the applicable retention period, all digital and physical survey materials are destroyed. Users of Arbitron data are reminded that any special tabulation of previously published estimates should be ordered before the end of the retention period.

# PPM Data Processing

When a Panelist listens to an encoded radio station, the Panelist's Meter captures the station's PPM encoding, appends additional information to it, and stores it. At the predetermined time each day, the Panelist's household collection hub downloads the information from the Panelist's Meter, collates it with information downloaded from additional Meters in the household, and pushes the data to Arbitron. Upon receipt of data, Arbitron's PPM data processing system organizes the data and applies edits to it.

This chapter offers a broad overview of key PPM data organization principles and important PPM data edit procedures; the descriptions included herein are for general purposes only and do not constitute the full body of Arbitron knowledge, policy, or procedure.

## Station Edits

While the majority of PPM encoding contains unambiguous station identifiers, some encoding may contain station identifiers that Arbitron cannot match to any encoded radio station. Arbitron developed edit procedures to credit such identifiers to an encoded radio station; which edit is applied to a particular identifier is determined by the degree to which the station identifier does not match/is similar to other station identifiers and by that identifier's proximity to other station identifiers in the Panelist's listening.

## Time Edits

While the majority of PPM encoding contains complete, ordered, and unambiguous station and Meter time stamps, some encoding may have been stored that is missing a time stamp, or contains an illogical time stamp. Several edits are in place to account for these illogical or ambiguous values. In the absence of encoding time stamps, Arbitron defaults to the time information the Meter appends to the encoding.

## The "Duration Edit"

One may think of a Panelist's exposure to encoded audio as a continuous stream of data capped by a beginning (when the Panelist tunes into the station) and an end (when the Panelist tunes into

another station or turns the radio off). During the course of the Panelist's listening, there may be a momentary loss of signal reception, fleeting pauses in the audio, or other circumstances that could result in a "break" or "blank" in the otherwise continuous data stream. If such a blank precedes a segment of data, Arbitron credits the blank segment to the station that received credit for the subsequent segment. When applying this edit, Arbitron does not assign credit for any break longer than 60 seconds.

## Time-Shifted Media Exposure

Arbitron uses the term "time-shifted" to refer to exposure to encoded audio at a time other than the time of the audio's original broadcast. A station receives credit for time-shifted exposure that occurs within one day of the original broadcast, with credit assigned to the station for the quarter-hour(s) of the original broadcast.

## Docked-Meter Edit

As a PPM is listening for encoding at all times, a radio station may receive credit for listening that occurs while the Panelist's Meter is in its dock. While the parameters of the docked Meter edit are fixed, variables such as the duration of the docked-Meter's exposure to encoded media and the relationship of the time of Meter docking to the start of the next media day, will affect how the edit is applied. Arbitron discards docked-Meter exposures that occur outside of the applicable parameters.

## Location Edit

The household's collection hub emits a low-power radio frequency (RF). Arbitron credits media exposure as having taken place "At Home" for all exposures for which the PPM has also captured the RF signal at least once in the quarter-hour.

## Quarter-Hour Assembly

After organizing and editing a panelist's data stream, the system assembles quarter-hours of listening credit by grouping blocks of listening to a station within a quarter-hour; Arbitron will credit the station for any quarter-hour during

which the Panelist listened to the station for a cumulative five minutes (or more).

## Quality Assurance

Arbitron has built multiple quality assurance checks into each process step and software module of the end-to-end PPM data processing system. These measures help Arbitron to ensure it applied all edits consistently and that it included all applicable data in each report. Additional measures are in place at each stage of data collection, transfer, processing and release to maintain the security of the data and the systems used to process it. Because of their sensitive nature, these measures are proprietary and remain confidential.

## Meter Security

Arbitron's Meter security measures help to ensure that its PPM audience estimates do not include inauthentic listening, the listening of fictitious persons, unrealistic amounts of listening, or the listening of a single Panelist represented as the listening of multiple Panelists. The procedures Arbitron uses to identify possible breaches of Meter security are objective and empirical; these measures may include analyses of a Panelist's listening, motion, and/or other factors.

Should Arbitron determine that a potential Meter security breach might have occurred, Arbitron will take action, as warranted in Arbitron's judgment, to protect the quality of the In-Tab sample, including additional Panelist coaching, removal of the Panelist from the In-Tab sample, deinstallation of the Panelist's household, and/or other action. Due to their nature, Arbitron's Meter security measures, and the analyses that support them, are proprietary and remain confidential.

# Sample Weighting

Survey researchers generally use some form of sample weighting to compensate for the disproportionate representation of specific segments of the population in the sample. As such, weighting is a tool that helps the sample more closely represent the universe from which it was selected.

This chapter provides a broad overview of the methodology Arbitron uses to weight its Diary and PPM In-Tab sample. The descriptions included herein are for general purposes only, apply exclusively to the *Radio Market Report* service, and do not represent the full body of Arbitron knowledge, policy, or procedure.

## Sample Balancing

Arbitron's method of sample weighting is *sample balancing*. This method of sample weighting was developed by Drs. W. Edwards Deming and Fredrick F. Stephan, and is widely used in survey research. [For a detailed explanation of sample balancing, see Chapter Seven of Dr. Deming's book, *Statistical Adjustment of Data* (Dover Publications, 1964).]

## Weighting Variables

Arbitron may weight its In-Tab sample on up to six variables including geography, sex/age, race/ethnicity, dominant language, employment status, and the presence of children in the household. The specific variables used to weight the sample will vary from Diary Surveys to PPM Panels and from Market to Market.

### Geography

Arbitron weights all sample to the county, county-equivalent, or county cluster level. Thus, the number of geographic classes may vary considerably from one Market to the next.

### Sex/Age

Arbitron weights its In-Tab Diary sample to 16 sex/age classes:

Males	Females
12-17	12-17
18-24	18-24
25-34	25-34
35-44	35-44
45-49	45-49
50-54	50-54
55-64	55-64
65+	65+

Arbitron weights its In-Tab PPM sample to 18 sex/age classes:

Males	Females
6-11	6-11
12-17	12-17
18-24	18-24
25-34	25-34
35-44	35-44
45-49	45-49
50-54	50-54
55-64	55-64
65+	65+

Note: During recruitment for the PPM Panel, if a respondent will not provide Arbitron with his or her exact age, Arbitron asks the respondent to identify his or her appropriate age range from a series of mutually exclusive categories. If the respondent selects an age range, Arbitron classifies the respondent's age as the midpoint of the selected range. If the respondent refuses to provide an exact age or to select an age range, that respondent is ineligible to be a Panelist.

### Race/Ethnicity

In ethnic-controlled Metros, Arbitron weights its sample to race/ethnicity. There could be two or three race/ethnic classes, Black and Other, Hispanic and Other, or Black, Hispanic, and Other. For sample balancing purposes, Black and Hispanic are considered mutually exclusive categories. Arbitron classifies respondents who indicate that they are both Black and Hispanic as Hispanic.

Metros that do not qualify for ethnic controls but that are embedded in ethnically controlled Metros may qualify for race/ethnic weighting, based on certain thresholds for race/ethnic estimated population percentages and expected race/ethnic in-tab.

### Dominant Language

In Hispanic-controlled Metros where universe estimates are available, Arbitron weights Hispanic in-tab sample to one of two dominant language classes: English-dominant or Spanish-dominant.

### Employment Status

Arbitron weights PPM in-tab to one of two employment statuses—full-time or not full-time. Arbitron does not weight Panelists under the age of 18 by employment status.

### Presence of Children

Arbitron weights PPM In-Tab sample based on the presence of children in the household under the age of 18.

## Example of Sample Weighting

Following is an example of how Arbitron weights sample. This example assumes that the survey area has two ethnic classes (Hispanic and Other), 16 sex/age classes, and three county classes. While this example applies directly to Diary surveys, the statistical principles demonstrated in the example also apply to PPM Panels.

**Step One:** If Hispanic Persons 12+ represented 15 percent of the population but only 12 percent of the in-tab, a weight of 1.25 ( $0.15 \div 0.12$ ) would be assigned to all Hispanic Diaries. Similarly, since Other (non-Hispanic) Persons 12+ represented only 85 percent of the population but 88 percent of the in-tab, a weight of 0.97 ( $0.85 \div 0.88$ ) would be assigned to all Other Diaries.

**Step Two:** If, after summing the Step One weights for the Diaries in County A, County A represented only 15 percent of the population but 20 percent of the in-tab, a weight of 0.75 ( $0.15 \div 0.20$ ) would be assigned to all County A Diaries. The same process applies to County B Diaries and County C Diaries.

**Step Three:** If, after summing the products of the Step One and Step Two weights for Women 35-44, Women 35-44 represented 6 percent of the population but only 5 percent of the in-tab, a weight of 1.20 ( $0.06 \div 0.05$ ) would be applied to all Women 35-44 Diaries. The same process applies for the 15 remaining sex/age classes.

In this example, each Diary has been weighted three times: once for ethnicity, once for county and once for sex/age, with each successive adjustment taking into account the results of previous adjustments. The example shows collective (i.e., class-level) adjustments because that is how the adjustments are determined, but in effect, each individual Diary—which started out with a value of 1—is being continually adjusted around that value until convergence (see below) is attained.

## Sample Weighting

Each round of adjustments is called a *iteration*. It is extremely unlikely that, after the county and sex/age adjustments, the weighted Hispanic in-tab would still equal to 15 percent of the total sample.

Because some Hispanic respondents were weighted up for county, some down for county, some up for sex/age, some down for sex/age, weighted Hispanic In-Tab might now be only 14.5 percent of the total sample. In this case, a second iteration is automatically initiated.

**Step One:** This time, the weights will be much smaller than before. For example,  $0.15 \div 0.145$  would produce a weight of only 1.03 for all Hispanic Diaries, and  $0.85 \div 0.855$  would produce a weight of only 0.99 for all non-Hispanic Diaries.

**Step Two:** Another round for county.

**Step Three:** Another round for sex/age (end of second iteration).

The successive adjustments for any particular class—one additional adjustment per class per iteration—are multiplicative. For example, Hispanic Diaries received a weight of 1.25 in the first iteration and 1.03 in the second, for a total adjustment of 1.29 ( $1.25 \times 1.03$ ) thus far. The iterations will continue until no further adjustment is necessary (i.e., until the adjustment for each marginal category is so slight that it does not affect the proportions for any of the other categories). This point of resolution is called *convergence*. The resulting weights will be the basis for Diary values used to process the data in each *Radio Market Report*/Arbitron eBook.

### Determining Weights

Arbitron's sample balancing procedures produces weights for each marginal class within a survey area. Because each in-tab respondent belongs to one class within each marginal category, every respondent is weighted multiple times. In the above example, a respondent who is a Hispanic woman age 42 from County A might receive the following weights:

Hispanic weight = 1.29

County A weight = 0.79

W 35-44 weight = 1.23

This would compute to an overall weight of 1.25 ( $1.29 \times 0.79 \times 1.23$ ). The final Diary PPDV or PPM weight would be

equal to the model population divided by the model in-tab (or average weight) times 1.25. Example: If the model population was 82,500 and the in-tab was 165, the average weight would be 500; with a weighting factor of 1.25, the example respondent would have a final weight of  $500 \times 1.25$ , or 625. This weight is the number of persons that the respondent represents. Note: results of actual calculations are carried out to more decimal places than shown in this example, which is deliberately simplistic for illustration purposes.

In non-embedded condensed Metros, data collected during two survey periods are combined in each release of a *Radio Market Report*/Arbitron eBook. For example, data to be included in the Fall 2009 report will include data collected during the Fall 2009 and Spring 2009 surveys. For estimates published in a *Radio Market Report*/Arbitron eBook in these Metros, PPDVs are derived as described above for each individual survey period and then halved, so that the sum of the PPDVs for all In-Tab Diaries returned during the two-survey reporting period will approximate population estimates for each marginal class. (For releases of *Maximiser*<sup>®</sup> and *Media Professional*<sup>®</sup> in non-embedded condensed Metros, audience estimates for each survey included in the two-survey reporting period are averaged; additional rounding may occur to ensure that *Maximiser*/Media Professional listening estimates will generally match those found in the *Radio Market Report*.)

### Maximum Respondent Weight

During preliminary rounds of sample balancing, should a respondent's weight exceed the pre-determined maximum permitted weight, Arbitron will adjust that respondent's weight by applying a factor to the weight so that, once all sample balancing routines are complete, the respondent's weight will not exceed the maximum. In such circumstances, Arbitron redistributes the weight adjusted to other respondents.

Arbitron determines maximum respondent weight thresholds based upon a detailed analysis of empirical data. Arbitron determines maximum weight thresholds once per year, with the threshold applicable for the subsequent 12 calendar months of audience

measurement. A Diary weight threshold applies to all Diarykeepers across Markets; similarly, a year's PPM weight threshold applies to all Panelists.

Due to their sensitive nature, the numeric value of maximum respondent weight threshold for Diary surveys and PPM Panels is proprietary and remains confidential.

### Diary Survey Models

The context in which sample balancing is performed (e.g., the particular group of Diaries being sample-balanced together) is called a *model*. Previous sections of this chapter explained how marginal weighting would be performed for a particular group of Diaries in a "survey area." While models generally correspond to a survey area, or a subset of survey areas, this may not always be the case.

Following is an example of a common weighting model. This example reflects a typical model configuration for a Market that qualifies for DMA reporting, and presumes that there are no Metro counties that are not also in the DMA, and that there are no DMA counties that are not also in the TSA:

**Model 1:** Metro/DMA counties—all Diaries

**Model 2:** Non-Metro TSA/DMA counties—all Diaries

**Model 3:** Non-Metro TSA-only counties—all Diaries

A model may also correspond to race or ethnicity within a particular Metro. Generally, race/ethnic models are used if the theoretical In-Tab target for each applicable category is at least 160. If neither criteria is met, race/ethnicity remains a marginal category within the model.

For example, following is a typical model configuration for a Market where the Metro qualifies for Black DST but the Market does not qualify for DMA reporting:

**Model 1:** Metro counties—Black Diaries

**Model 2:** Metro counties—Other Diaries

**Model 3:** Non-Metro TSA counties—all Diaries

## Sample Weighting

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In the two Metro models above (“Metro—Black” and “Metro—Other”), race would not be a marginal category; the only marginal categories would be sex/age and county.

Regardless of how the models are defined, every Diary in a Market is assigned to one, and only one, model. However, due to overlapping Markets (primarily overlapping TSAs), a Diary may be sample-balanced multiple times—once for each Market.

### PPM Sample Balancing Configurations

In some Metros, Arbitron balances the entire PPM In-Tab sample to one set of independent population estimates. In other Metros, Arbitron sample-balances applicable race/ethnic classes to race/ethnic, sex/age and geographic population estimates separately and then balances the entire Metro’s In-Tab to population estimates for other marginal variables. The particular model Arbitron uses to balance a Metro’s sample depends upon that Metro’s specifications and service level. Note: For sample balancing purposes, Arbitron combines PPM-measured non-Metro DMA counties in the Houston-Galveston Market with Metro counties.

### Daily and Weekly Weights

As Arbitron produces daily and weekly PPM audience estimates, a particular Panelist may have different weights in different services; a Panelist’s weight depends upon the weighting model Arbitron uses for that particular service. In general, Arbitron uses a “daily weight” to derive daily audience estimates such as daily Cume and AQH. Conversely, Panelists who are in-tab for at least six days during the media week (Thursday-Wednesday) qualify for weekly in-tab. The final weekly In-Tab sample for each media week is weighted to produce a weekly weight, which is used in deriving weekly estimates, such as average weekly Cume and TSL.

### Diary-Based CSAR Sample Weighting

Arbitron weights In-Tab Diaries for Custom Survey Area Reports by the

same sample balancing methodology used for the *Radio Market Report*. When weighting CSAR sample, Arbitron combines a county’s “special” CSAR sample with the county’s syndicated sample and weights the county’s aggregate sample as a single unit. In the event that a custom survey area includes a Metro county (or counties), Arbitron retains respondent weights from the county whenever possible.

### Reservation of Rights

All determinations regarding Arbitron’s sample weighting policy and procedure, including weighting variables, models, maximum weights, and sample balancing configurations, remain solely with Arbitron; Arbitron reserves the right to waive, suspend, change, or modify any element of its methodology as business conditions warrant.

## Audience Estimates

This chapter provides a description of the audience estimates reported for stations in the *Radio Market Report*/Arbitron eBook. The descriptions contained in this chapter are for general information purposes only, and do not constitute the full body of Arbitron's knowledge. Additional information on commonly used formulas, and additional information on how to use audience estimates for the purposes of buying, selling, and programming radio, are available on the Arbitron Web site [www.arbitron.com](http://www.arbitron.com), or from your Arbitron account executive.

### Cume Estimates

The term "Cume" is an industry-coined term that means "cumulative audience." In the broadcast media and media research industries, "cumulative audience" is generally understood to refer to the number of unique persons that consumed the applicable media. Arbitron publishes a range of Cume estimates in the *Radio Market Report*/Arbitron eBook.

#### Cume Persons [Cume (00)]

In Diary-based *Radio Market Reports*/Arbitron eBooks, a station's Cume Persons is the number of different, unduplicated persons within the specified demo that reported listening to the specified station for at least five minutes during a quarter-hour within the specified daypart during an average week in the report period. A Cume Persons estimate is determined by summing the Persons-Per-Diary Value (PPDV) for each Diary in which the station receives at least one quarter-hour of credit within the daypart and rounding to hundreds. Cume Persons estimates are expressed in hundreds.

In PPM-based *Radio Market Reports*/Arbitron eBooks, Weekly Cume Persons is the number of different, unduplicated persons within the specified demo that were exposed to the specified station for at least five minutes during a quarter-hour within a specified daypart during an average week in the report period. Weekly Cume Persons estimates are determined by summing the weekly weights for each Panelist with at least one quarter-hour of exposure to the station within the daypart for each week in the report period, then averaging those weekly results and rounding to hundreds.

Weekly Cume Persons estimates are expressed in hundreds.

#### Cume Rating [Cume Rtg]

In Diary-based *Radio Market Reports*/Arbitron eBooks, a station's Cume Rating is determined by dividing the rounded Cume Persons estimate for the station by the estimated population for the specified demographic group, and then multiplying by 100. Cume Rating points represent the percentage of a target demo's population that listened to the station at least once during an average week for the reported daypart and are expressed in tenths of a rating point.

In PPM-based *Radio Market Reports*/Arbitron eBooks, a station's Weekly Cume Rating is determined by dividing the station's rounded Weekly Cume Persons estimate by the estimated population for the specified demo, and then multiplying by 100. Cume Rating points represent the percentage of a target demo's population that were exposed to the station at least once during an average week for the reported daypart and are expressed in tenths of a rating point.

#### Exclusive Cume [Exclusive (00)]

In Diary-based *Radio Market Reports*/Arbitron eBooks, Exclusive Cume Persons represents the number of different, unduplicated persons within a specific demo that reported listening to only the specified station during the survey. Exclusive Cume Persons estimates are determined by summing the PPDVs for all Diaries in which listening was solely reported to the specified station during the specified daypart and then rounding to hundreds. Exclusive Cume estimates are expressed in hundreds.

In PPM-based *Radio Market Reports*/Arbitron eBooks, Weekly Exclusive Cume Person estimates are determined by summing the weekly weights of all Panelists who were solely exposed to the specified station during the specified daypart, then averaging those weekly results and rounding to hundreds. Weekly Exclusive Cume Persons estimates are expressed in hundreds.

#### Exclusive Percents

In Diary-based *Radio Market Reports*/Arbitron eBooks, a station's Exclusive Percent is the percent of the station's Cume Persons that are Exclusive Cume Persons. Exclusive Percent is determined by dividing the station's unrounded Exclusive Cume Persons estimate by the station's Cume Persons estimate and then multiplying by 100. Exclusive percents are expressed in whole percentage points.

In PPM-based *Radio Market Reports*/Arbitron eBooks, a station's Weekly Exclusive Cume Percent is determined by dividing the station's unrounded Weekly Exclusive Cume Persons estimate by the station's Weekly Cume Persons estimate, and multiplying by 100. Weekly Exclusive Cume Percents are expressed in whole percentage points.

#### Cume Duplication Percent

In Diary-based *Radio Market Reports*/Arbitron eBooks, Cume Duplication Percent represents the percentage of one specific station's Cume that also listened to a second specific station. Cume Duplication percents are determined by dividing the sum of the PPDVs for the Diaries that reported listening to both stations by the unrounded Cume estimate for the selected station and multiplying by 100. Cume Duplication percents are expressed in whole percentage points.

In PPM-based *Radio Market Reports*/Arbitron eBooks, a Weekly Cume Duplication Percent represents the percentage of one specific station's Cume that was also exposed to a second specific station. Weekly Cume Duplication Percents are determined by dividing the sum of the weekly weights for Panelists who were exposed to both stations during the report period by the unrounded Weekly Cume estimate for the selected station, and then multiplying by 100. Weekly Cume Duplication Percents are expressed in whole percentage points.

#### Average Quarter-Hour Estimates

The term "Average Quarter-Hour" (abbreviated as "AQH") is a radio-industry term that is generally understood

## Audience Estimates

to refer to the average number of persons that listened to a particular radio station for at least five minutes during a specific 15-minute period. Arbitron publishes a range of Average quarter-hour estimates in the *Radio Market Report/Arbitron eBook*.

### Average Quarter-Hour Persons (AQH)

In Diary-based *Radio Market Reports/Arbitron eBooks*, a station's Average Quarter-Hour Persons estimate is the number of persons that reported listening to the specified station for at least five minutes during a quarter-hour during the specified daypart. AQH Persons estimates are determined by multiplying each Diary's PPDV by the number of quarter-hours of listening reported to the station within the daypart in the Diary; the result of the multiplication is then summed for all Diaries within the specified demo and divided by the quarter-hours in the daypart, and then rounded to hundreds. AQH Persons estimates are expressed in hundreds.

In PPM-based *Radio Market Reports/Arbitron eBooks*, a station's Average Quarter-Hour Persons estimate is the number of persons exposed to the specified station for at least five minutes during a quarter-hour during the specified daypart. AQH Persons estimates are determined by multiplying the daily weight for each Panelist by the number of quarter-hours of exposure to the station within the daypart for each day in the report period. The result of this multiplication is summed for all Panelists and divided by the number of quarter-hours in the daypart and the number of days in the report period, and then rounded to hundreds. AQH Persons estimates are expressed in hundreds.

### Average Quarter-Hour (AQH Rtg)

Average Quarter-Hour rating points represent the percentage of a target demo's total population that reported listening to, or were exposed to, the applicable station during an Average quarter-hour for the specified daypart.

In Diary-based *Radio Market Reports/Arbitron eBooks*, a station's AQH Rating is determined by dividing the station's rounded AQH Persons estimate by the estimated population for the specified demo, and then multiplying by 100. AQH ratings are expressed in tenths of a rating point.

In PPM-based *Radio Market Reports/Arbitron eBooks*, a station's AQH Rating is determined by dividing the station's rounded AQH Persons estimate by the estimated population, then multiplying by 100. AQH ratings are expressed in tenths of a rating point.

### Average Quarter-Hour Share (AQH Shr)

In Diary-based and PPM-based *Radio Market Reports/Arbitron eBooks*, a station's AQH Share is determined by dividing the station's rounded AQH Persons estimate by the rounded Market Total AQH Persons estimate, then multiplying by 100. AQH Shares are expressed in tenths of a share point.

## Time Spent Listening

### Time Spent Listening (TSL)

In Diary-based *Radio Market Reports/Arbitron eBooks*, a station's TSL is determined by multiplying the station's unrounded AQH Persons estimate by the number of quarter-hours in the particular daypart, then dividing by the unrounded Cume Persons estimate for that daypart. TSL is rounded to the nearest quarter-hour, and is expressed in hours and minutes.

In PPM-based *Radio Market Reports/Arbitron eBooks*, a station's TSL is determined by multiplying the weekly weight for each Panelist by the number of quarter-hours of exposure to a station within a daypart for each week in the report period. The result of this multiplication is summed for all Panelists. The sum is then divided by the number of weeks in the report period, and then by the unrounded weekly Cume Persons estimate for that daypart. TSL is rounded to the nearest quarter-hour and is expressed in hours and minutes. (Note: in select commonly used PPM-based reports and software programs, TSL may also be referred to as "Average Time Exposed (ATE)" or "Average Weekly Time Exposed (AWTE)." For additional information, please see the applicable report's reference materials or the software program's user guide.)

## Composition Reports

The *Radio Market Report/Arbitron eBook* (and other related reports and software programs) offer a wide variety of

"Composition Reports." These reports offer Cume-based and AQH-based estimates for specific variables. Examples of the variables for which composition reports are produced include Ethnicity, Listening Location, etc. The nature of the composition reports available (and the reporting variables) may differ. In general, estimates reported in Composition Reports are derived as described above, based upon the applicable subset/variable. For example, Ethnic Composition percents (%) for individual stations (both AQH and Cume) are determined by dividing the unrounded Black and/or Hispanic Persons estimate by the Total Persons estimate for that station, then multiplying by 100.

## Multibook Averages

In Diary-based *Radio Market Reports/Arbitron eBooks*, four-book and two-book averages are shown for Continuous Measurement and Spring/Fall Markets, respectively. These are averages of the rounded audience estimates applicable to the demographic group, daypart and surveys. Four-book and two-book averages are published for a station only if the station was reported in each *Radio Market Report/Arbitron eBook* for all of the surveys included in the average. A zero value is used in the determination of the average if a station was listed in a particular *Radio Market Report/Arbitron eBook* but no estimate was reported for the particular demo and daypart. Note: Multibook averages in non-embedded Condensed Markets are not reported under the label "Two-Book Average." Audience estimates published in such reports reflect average listening over a two-survey period, and therefore already reflect two-book averages.

# Station Reporting and Station Information

This chapter provides an overview of Arbitron policy relating to audience estimates reporting in the *Radio Market Report*. The information included in this chapter is for general purposes only, and does not constitute the full body of Arbitron knowledge, policy, or procedure.

## Stations Eligible for Reporting in the *Radio Market Report*

Stations eligible for reporting in a Diary-based *Radio Market Report* include commercial AM and FM radio stations, digital stations that are part of a Total Line Reporting combo with an AM or FM radio station, and analog LPTV stations that act as radio stations.

Stations eligible for reporting in a PPM-based *Radio Market Report* include encoded commercial and non-commercial AM, FM, and LPFM stations, encoded digital stations, and encoded analog LPTV stations that operate as radio stations.

## Reported Call Letters

Arbitron labels audience estimates for AM and FM radio stations with the station's call letters that were in use on the last day of the survey or report period as reported by the station to Arbitron.

Listening credited to supplemental service broadcast facilities, including translators, boosters, and repeaters, is included in the audience estimates published for the full power station that simulcasts with the complementary station. Audience estimates (and unweighted crediting information) for translators, boosters, or repeaters are not available in any Arbitron service.

In applicable reports, Arbitron reports estimates for Low Power FM (LPFM) stations labeled with the station's FCC-designated call letters followed by the suffix "FM." In the event that the FCC assigns the same call letters to both an FM and an LPFM station, Arbitron reports estimates for the LPFM under the alias call sign "XLP-FM." Should an LPFM station that has the same call letters as a full-service FM station accept Arbitron's invitation to encode, Arbitron will denote the station in its databases with the alias call sign "XX—" (e.g., the last two letters of the station's FCC-designated call sign preceded by two Xs).

Arbitron labels audience estimates reported for analog LPTV stations that operate as radio stations with the station's call sign followed by the suffix "FM." In circumstances where the analog LPTV station has granted permission to an AM or FM radio station to use its call letters, Arbitron will denote the analog LPTV station with alias call sign "XX—" (e.g., the last two letters of the station's FCC-assigned call sign preceded by two Xs followed by the suffix "FM").

A digital station's call sign reflects the FCC-designated call letters of the analog station that broadcasts the digital station followed by a two-character band ID that is indicative of the digital station's "type" as follows:

Band ID	Station	Example
IA	Internet stream of an AM station	WAAA-IA
IF	Internet stream of an FM station	WBBB-IF
F2, F3	HD-multicast station	WBBB-F2, WBBB-F3
G2, G3	The Internet stream of an HD-multicast station	WBBB-G2, WBBB-G3

Arbitron reports audience estimates for stations that changed call letters during the survey or report period with a label that includes the two sets of call letters; the first are those used as of the last day of the survey/report period (e.g., the "new" call letters), the second are the station's previous call letters.

In the event of exchanges of frequencies between stations in a Market, the call letters under which Arbitron reports a station's audience estimates are based on Arbitron's verification and interpretation of information from the FCC and the affected stations. Arbitron reports information related to such changes on the "Special Notices" page of applicable reports.

## Total Line Reporting (TLR)

For combos that request Total Line Reporting, Arbitron sums the individual partner stations' audience and reports that sum as if it were the audience for one of the partner stations. Radio station combos that include partner stations that are 100 percent simulcast, including all programming, commercials, and PSAs, for the whole three-month interval that corresponds to a Diary survey may

request Total Line Reporting. Any combination of analog and digital stations may request Total Line Reporting; however, Arbitron requires that the combo's primary call sign be that of an analog AM or FM station. Stations request Total Line Reporting by completing the appropriate section of the Station Information Form. Arbitron cautions broadcasters considering Total Line Reporting to bear in mind that audience estimates and unweighted information for individual TLR partner stations are not available in any Arbitron service or report and that starting/stopping Total Line Reporting will affect the reporting of historical trends.

## Minimum Reporting Standards for a Diary *Radio Market Report*

A commercial radio station or combo is eligible to be listed in a Diary-based *Radio Market Report*/Arbitron eBook if the station or combo has met all of the following Minimum Reporting standards for the applicable geographic area among Persons 12+, during the Monday-Sunday 6AM-Midnight daypart for the applicable survey:

- The station must have been credited for at least one quarter-hour in at least 10 In-Tab Diaries; **and**
- The station or combo must have a Metro Cume rating of 0.495 or greater; **and**
- The station or combo must have a Metro Average Quarter-Hour rating of 0.05 or greater.

## Minimum Reporting Standards for a PPM *Radio Market Report*

An encoded station or combo is listed in a PPM-based *Radio Market Report*/Arbitron eBook if the station or combo has met each of the following Minimum Reporting standards for the Metro among Persons 6+, during the Monday-Sunday 6AM-Midnight daypart for the applicable report period:

- The station or combo must have received at least one quarter-hour of listening credit from at least one In-Tab Panelist; **and**
- The station or combo must have a Metro Cume rating of 0.495 or greater.

# Station Reporting and Station Information

## Reporting Sequence

Arbitron lists stations and combos in the report alphabetically by call letters and band, with stations and combos that are home to the Metro separated from stations that are not home to the Metro by a dashed line. Arbitron classifies any station with an FCC-designated city of license within a Metro county as home to the Metro. Similarly, Arbitron classifies any station with an FCC-designated city of license within a DMA county as home to the DMA. In select circumstances, stations that are not home to the Metro can request home Metro status; additional information is available from Arbitron's Station Relations Team.

## Market Totals

In Diary-based reports, listening reported under the "Totals" label reflects the sum of all radio listening reported by In-Tab Diarykeepers. This estimate is inclusive of listening credited to stations that met minimum reporting standards, listening credited to stations that did not meet minimum reporting standards, listening credited to radio stations that are not eligible for reporting, and radio listening that could not be credited to any specific radio station. The term "Persons Using Radio" (PUR) is synonymous for "Market totals" in Diary-based reports.

In PPM-based reports, listening reported under the "Totals" label reflects the sum total of all In-Tab Panelists' exposure to encoded radio stations that are eligible for reporting. The term "Persons Using Measured Media" (PUMM) is synonymous with "Market totals."

As a matter of policy, the component parts of Diary PUR and PPM PUMM are the same; Arbitron measures the same "universe" of stations in the Diary and PPM services. As a practical matter, however, the number and identity of stations contributing to Diary PUR and PPM PUMM may differ.

## Stations Authorized to Use Arbitron Data

Arbitron identifies stations licensed to use Arbitron data with the indicator "(s)" next to the station's call letters on the Station Information Page(s) of the *Radio Market Report*/Arbitron eBook.

## Special Notices

In the "Special Notices" section of the *Radio Market Report*, Arbitron includes information intended to assist users in making evaluations of the data.

## Remedial Action and Reissue of the Radio Market Report

In the event that a data processing error has affected a *Radio Market Report*, Arbitron will consider the significance and cause of the error when determining if reissue of the report is warranted.

Arbitron will generally reissue a Diary-based *Radio Market Report* if the revised estimates would differ from the initially released estimates as follows:

1. A significantly ranked Metro station changes its rank, based on Average Quarter-Hours (AQH) Persons estimates for the Monday-Sunday 6AM-Midnight daypart for Persons 12+, Persons 18-34 or Persons 25-54; *and*
2. The same station's AQH Persons estimate varies by at least five percent, Monday-Sunday, 6AM-Midnight in the same demo in which the station's rank changed.

Arbitron will generally reissue a PPM-based *Radio Market Report* if the revised estimates would differ from the initially released estimates as follows:

1. A significantly ranked Metro station changes its rank, based on Average Quarter-Hours (AQH) Persons estimates for the Monday-Sunday 6AM-Midnight daypart for Persons 6+, Persons 18-34 or Persons 25-54, *and*
2. The same station's AQH Persons estimate varies by at least five percent, Monday-Sunday, 6AM-Midnight in the same demo in which the station's rank changed.

When applying these guidelines, Arbitron also considers other factors including the market's size, whether advertisers in the market are likely to buy time on the affected station, the affected station's rank, the importance of the demo to the affected station, the station's performance in other relevant affected dayparts and demos, and other factors.

The final decision regarding possible report reissue lies solely and unilaterally

with Arbitron. Errors in information other than the audience estimates (such as the inclusion of incorrect station facility information in a report's lead-in pages) may be affected by processing errors. Such instances are evaluated for remedial action on a case-by-case basis. Arbitron will exercise its judgment in determining what, if any, corrective action should be considered. In making this judgment, Arbitron will focus primarily on the impact the error has on the overall utility of the *Radio Market Report*.

## Station Information

In order to ensure that the radio listening and exposure to encoded media is processed and credited appropriately, Arbitron strives to collect and maintain current facility information for all radio stations. Arbitron obtains this information from radio stations, the FCC and other appropriate sources. Arbitron stores this information in its databases and integrates it into the Diary and PPM data processing and reporting systems.

The Station Information Packet (SIP) is Arbitron's primary vehicle for collecting station information. Arbitron mails the SIP to all radio stations seven weeks prior to the first day of the next Diary survey. The SIP contains the Station Information Form, instructions on how to complete it, and other useful information.

Arbitron's Station Relations Team is a radio station's point of contact for matters pertaining to station information. Stations may contact Arbitron's Station Relations Team by dialing (410) 312-8062 or via e-mail at [rsimail@arbitron.com](mailto:rsimail@arbitron.com).

## Timely Updates to Station Information

Because it processes audience information on a daily basis, it is critical that Arbitron has up-to-date station information on file for all stations at all times. Ideally, a station will pre-notify Arbitron of impending facility changes; this will allow Arbitron to update its databases the day the facility changes take place. Should a delay in the submission of updated station information put the accuracy of the station information in jeopardy, Arbitron reserves the right to take remedial action, as warranted, in Arbitron's judgment.

## Special Station Activities

Years ago, Arbitron convened a task force of radio broadcasters, advertisers, and industry representatives to help Arbitron define station activities that have the potential to harm the credibility of Arbitron's audience estimates. Over time, those guidelines have evolved into a dynamic and robust body of policy. This chapter includes an overview of the "Special Station Activity" guidelines that team developed and a summary of the measures Arbitron may take in response to a violation of them. The descriptions included in this chapter are illustrative and for general information purposes only; it is impossible to catalogue all possible activities that violate the special station activity guidelines.

### Media Affiliation

A radio or television station employee, and members of the employee's household, may not participate in a Diary survey or PPM Panel.

Similarly, persons employed by a broadcast or cable television network or an advertising agency, and members of the employee's household, are not eligible to participate in a PPM Panel.

Should Arbitron discover that a media-affiliated individual has participated in a Diary survey or PPM Panel, Arbitron will remove that household's listening from the In-Tab sample and (as necessary) reissue the affected report.

### Rating Distortion

Arbitron considers any statement or act by or on behalf of a radio station that may prompt a respondent to identify his or her participation in a survey or Panel, or to surrender control of the survey instrument, to be Rating Distortion. Similarly, any statement or act that prompts a respondent to misreport listening, or to capture information in a Meter so that the captured information does not reflect actual listening, or to provide false household information to Arbitron is also Rating Distortion. For encoded radio stations, the unauthorized use of encoding equipment and/or encoded audio may also be Rating Distortion.

### Rating Bias

Arbitron may consider any statement or act by or on behalf of a radio station that differentially prompts the station's audience to participate in the survey or on the Panel, or that prompts a listener to report listening to that station differently than to other stations, to be Rating Bias. Similarly, any statement or act that emphasizes the importance of Arbitron surveys, or that alerts the audience to an ongoing or upcoming measurement period, may also be Rating Bias.

Extemporaneous comments that refer to Arbitron, a survey, a Panel, the Diary, PPM, or radio ratings in a way that might sensitize the station's listeners to the survey process or that may affect the way that station's listeners comply with Arbitron's instructions may also be Rating Bias. Extemporaneous Comments are generally one-time-only, spontaneous remarks that may have been intended as humorous. A comment's context will affect Arbitron's decision on whether to cite the comment as Rating Bias.

Arbitron cautions stations that comments with Rating Bias potential do not always include the words "Arbitron," "Diary," or "PPM," and that these comments may urge participants to "keep track of" their listening or to be "honest" or "accurate." Such omissions and instructions do not negate a comment's Rating Bias potential.

### Estimate Sourcing

Arbitron does not generally consider a station referring to its audience estimates in previous reports for promotional purposes to be Rating Bias. (Arbitron may, however, consider such a reference in the context of an appeal for support to be Rating Bias.)

### Applicable Media

The Rating Distortion and Rating Bias guidelines described above apply to all media to which a station's listeners may be exposed including broadcast, streaming, Internet, mobile, multimedia, and print. Arbitron reminds stations that the use of graphics to suggest or describe the survey process in a visual medium may also constitute Rating Bias, and that the guidelines apply to station

staff at all times when using social networking sites.

### Special Station Activity Violations

Should Arbitron determine that a station has engaged in a special station activity, Arbitron will take appropriate action, as warranted in Arbitron's judgment. Examples of actions Arbitron has taken in the past include removal of a station from the report (i.e., "delisting"), listing the station out of alphabetical sequence or below a special distinguishing line, citation of the event in the report, and/or other special communications with the marketplace.

Arbitron reminds data users that a special station activity may or may not have affected the audience estimates. As it is not possible to either prove or disprove the effect of such activities, Arbitron will not attempt to do so.

It is Arbitron's opinion, however, that special station activities are *inherently* detrimental to broadcasters, advertisers, and media researchers in that such activities may undermine confidence in the audience estimates and may harm radio's reputation as a vibrant and honest medium to potential advertisers.

### Request for Inquiries and Confidential Pre-Review

To avoid activities that may have Rating Distortion or Rating Bias potential, a station can submit an overview of planned activities to Arbitron for a confidential Pre-Review. A radio station may also request that Arbitron conduct an inquiry into the activities of another radio station. Additional information regarding pre-reviews and inquiries is available from Arbitron's Special Station Activities Committee. (Arbitron reserves the right to decline any request for inquiry as warranted in Arbitron's judgment.)

## Special Station Activities

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### Reservation of Rights

Arbitron reserves the right to use any available means to draw attention to any station activity that, in Arbitron's opinion, has the potential to undermine the credibility of the audience estimates, including activities not specifically mentioned herein. Arbitron further reserves the right to take other appropriate action depending upon the content, context, frequency, or repetition of the activity.

### Additional Detailed Information

For additional detailed information pertaining to Diary-measured markets, please see the *Rating Distortion and Rating Bias Handbook*:  
[http://www.arbitron.com/downloads/rating\\_distortionandbias.pdf](http://www.arbitron.com/downloads/rating_distortionandbias.pdf).

For additional detailed information pertaining to PPM-measured markets, please see the *Rating Distortion and Rating Bias Handbook for PPM Markets*:  
[http://www.arbitron.com/downloads/rating\\_distortionandbias\\_ppm.pdf](http://www.arbitron.com/downloads/rating_distortionandbias_ppm.pdf).

## Reliability of Arbitron Estimates

The accuracy of any survey result can be thought of as having two components—**reliability**, which refers specifically to sampling error, and **validity**, which refers to non-sampling aspects of the survey such as the strengths and biases associated with the survey instrument, length of the survey, etc. As in any survey that uses a sample of the universe, Arbitron's estimates are subject to sampling error and nonsampling errors. Due to the limitations described in Chapter 15 of this *Local Syndicated Services Description of Methodology*, the reliability of Arbitron estimates, data, reports and their statistical evaluators cannot be determined to any precise mathematical value or definition.

This chapter provides a broad conceptual overview of the reliability of Arbitron estimates published in Arbitron's syndicated services. The descriptions contained in this chapter are for general information purposes only, and do not constitute a comprehensive overview of the statistics principles upon which they are based, or Arbitron knowledge, policy, or procedure.

### Estimated Reliability

This chapter is specifically concerned with *estimated reliability*, which refers to how close the estimate would come, in repeated applications of the sampling procedures, to the result that would be achieved through a complete census of the same population (defined by the sample frame) using the same methodological standards and data collection procedures. It is important to keep in mind that reliability is not a measure of the validity of the estimate.

Measures of reliability provide information that's important to understanding the role of Arbitron's sampling design and procedures on audience estimates.

There's more to a rating than simply the reported value. That reported value is only an estimate of the actual rating that exists for the entire market population. Reliability measures supplement the information contained in reported ratings.

For example, if Arbitron reports an AQH rating of 0.5 for a station in a given survey, that means the information from the sample for that survey indicates that,

on average, .5 percent of persons in the market were exposed to the station for at least five minutes during each 15-minute period. However, that's only part of the story. The natural question is, what is this average for all people in the market? Perhaps, the average for the market population is actually 0.4 or 0.7. Reliability measures provide a likely range for that population average.

### Standard Error

As it applies to Arbitron's services, the statistical concept of "standard error" can be thought of as the amount of uncertainty involved in estimating the size of a radio audience. Because Arbitron bases its radio audience estimates on a sample of the population, they are subject to uncertainty. The uncertainty comes from the fact that any one of the possible random samples of the population will result in different estimates than any other. The variation in these hypothetical estimates over all possible samples is called sampling error. The standard error is a measure of this sampling error.

### Confidence Interval

As it applies to Arbitron's services, the statistical concept of a "confidence interval" provides a range of plausible values for the actual population average. A confidence interval range of 0.4 to 0.7 for an AQH rating of 0.5 indicates that it is likely that the actual population rating is somewhere between 0.4 and 0.7. Arbitron reminds data users to exercise caution when interpreting confidence interval ranges. Confidence intervals by themselves don't provide a complete picture of the likelihood of the population rating being any particular value. For instance, in this example, the most likely value of the population rating is 0.5 and the values near 0.5 are more likely values for the population rating than are the extremes of the confidence interval.

Each confidence interval references a specific confidence level. The confidence level indicates how strong the evidence is that the population rating is contained in the confidence interval range. The larger the confidence level, the larger the likelihood that the confidence interval range contains the population rating.

### Replication Study

From 2007 to 2009, Arbitron conducted several replication studies of PPM and Diary radio ratings estimates in a number of markets. These replication studies were similar in concept and design to previous studies, including the 2005-2006 PPM replication studies and 1981's *Replication II* study. The latest set of replication studies formed the basis for the Ratings Reliability Estimator, which replaces the previous Table A/B reliability methodology.

### Ratings Reliability Estimator

The Ratings Reliability Estimator (RRE) is a Web-based application that licensed users of Arbitron data can use to determine standard error estimates and confidence intervals for station Cume and AQH estimates in Arbitron's local and national syndicated services. The RRE is available via the link on the user's <https://rre.arbitron.com> page. As the data are now contained in the RRE, it is not necessary for Arbitron to publish "Table A" or "Table B" in any report or service.

## DMA Station Reporting

Arbitron reports DMA-level audience estimates two times per year in each of the top 100 U.S. Radio Markets. In a DMA that Arbitron measures exclusively by Diaries or exclusively by PPM, the roster of stations eligible for reporting in that DMA's report and the policies and procedures for determining a station's estimate are the same as they are for the Metro's *Radio Market Report*.

Unique rules and procedures may apply, however, in a DMA that includes PPM-measured Metro counties and Diary-measured non-Metro counties (e.g., a "Diary Meter Combo" DMA).

This chapter provides a broad overview of Arbitron policies and procedures that are unique to Diary Meter Combo DMA reporting. The information included in this chapter is for general purposes only and does not reflect the full body of Arbitron knowledge or procedure.

### Stations Eligible for Reporting

Radio stations eligible for reporting in a Diary Meter Combo DMA are those that are eligible for reporting in the Metro's *Radio Market Report*.

### Encoded Radio Stations

Diary Meter Combo DMA audience estimates for an encoded analog radio station represent the sum total of the station's Diary-based audience plus the station's PPM-based audience.

Diary Meter Combo DMA audience estimates for an encoded digital radio station represent that station's PPM-based audience only.

### Stations Not Eligible to Encode and Stations That Declined the Invitation to Encode

Diary Meter Combo DMA audience estimates for analog radio stations that are not eligible to encode for PPM measurement and Diary Meter DMA Combo DMA audience estimates for stations that declined Arbitron's invitation to encode represent the whole of the station's Diary-based audience.

### Minimum Reporting Standards

A radio station is eligible to be reported in the Diary Meter Combo DMA if the station has met both of the following Minimum Reporting Standards for Persons 12+ during the Monday-Sunday 6AM-Midnight daypart for the applicable survey in the DMA:

- a. The station must have been credited for at least one quarter-hour in at least one In-Tab Diary or Meter, and
- b. The station or combo must have a DMA Cume rating of 0.495 or greater.

Note: Arbitron bases its DMA audience estimates on information collected from respondents 12 years of age and older; Arbitron excludes information collected from Metro Panelists aged 6-11 from the DMA audience estimates.

### Determining Audience Estimates

Arbitron determines a station's Diary-PPM combo AQH (00) estimate by summing the station's unrounded Diary AQH Persons and the station's unrounded PPM Average Daily AQH persons, and rounding to the nearest hundred.

Arbitron determines a station's Diary-PPM combo AQH Rating estimate by rounding the station's DMA AQH(00) to hundreds and then dividing by the DMA's P12+ population (also rounded to hundreds).

Arbitron determines a station's Diary-PPM combo Cume (00) estimate by summing the station's unrounded Diary-based Cume Persons estimate and the station's PPM-based unrounded Average Weekly Cume Persons estimate, and rounding to hundreds.

Arbitron determines a station's Diary-PPM combo Cume Rating by rounding the station's DMA-level Cume estimate to hundreds and dividing by the DMA's 12+ population (rounded to the nearest hundred). Arbitron rounds Cume Rating estimates to one decimal place.

A Diary-PPM Combo DMA's market totals represent the sum of all listening credited in the DMA including Diary-reported listening credited to radio stations that are not eligible for reporting or that Arbitron could not credit to any specific radio station.

### Reliability of Diary-PPM Combo DMA Audience Estimates

A station's Diary Meter Combo DMA audience estimates are subject to the same principles of statistical reliability as are the station's Metro audience estimates. See Chapter 12, "Reliability of Arbitron Estimates," of this *Local Syndicated Services Description of Methodology* for additional information.

### MRC Accreditation

As of this writing, Arbitron plans to seek MRC accreditation for Diary Meter Combo DMA audience estimates.

(Arbitron has already secured MRC-accreditation for its Diary-based DMA audience estimates and PPM-based DMA audience estimates in the Houston-Galveston market.)

## Arbitron Radio County Coverage

### Overview

The *Arbitron Radio County Coverage* service is a local radio service that provides licensed users of the data with audience estimates for radio stations in individual counties.

A county's *County Coverage* sample is all of that county's Diary In-Tab or PPM Unique Weekly Qualified In-Tab (as applicable) fielded during all surveys and report periods of the calendar year. To produce *County Coverage* audience estimates, Arbitron aggregates the sample's final credit results, normalizes the data, and weights them to the *County Coverage* service's specifications.

Arbitron organizes *County Coverage* data in printed state-level books that include a page(s) for each of the state's counties; included on these pages are station estimates and other information. Arbitron reports audience estimates in *County Coverage* for Persons 12+ for the Monday-Sunday 6AM to Midnight and Monday-Friday 6AM to 7PM dayparts.

Arbitron releases one edition of *County Coverage* each calendar year, with printed books mailing to subscribers in mid-April. To complement the data included in the printed books, Arbitron also offers a software program, "Custom Coverage," which allows the user to create and print custom reports based on *County Coverage* data.

Because *County Coverage* includes In-Tab respondents from Arbitron's local currency Diary and PPM services, the methodology, policies, and procedures described in this *Local Syndicated Services Description of Methodology* is latent in *County Coverage*. In this chapter, Arbitron highlights elements of methodology that are unique to *County Coverage*. Should any information included in this chapter conflict with or contradict information included in the Special Notices section of a *County Coverage* report, the Special Notices supersede and/or amend this chapter.

### County Coverage Survey Area

The survey area for the *County Coverage* service is all Arbitron-measured counties and county equivalents in the 50 United States (and District of Columbia).

The survey area for an individual *County Coverage* report is all counties and county equivalents located within that particular state.

### County Coverage and Arbitron's Survey Instruments

For its local currency services, Arbitron uses **either** Diaries or the PPM to measure a county. As such, *County Coverage* estimates reported for a county reflect the methodology of the instrument used to measure the county.

Counties of a Diary-measured Metro that are embedded in a PPM-measured parent Metro are *simultaneously* measured by Diaries and PPM for Arbitron's local services; for these counties' *County Coverage* sample, Arbitron uses the counties' PPM Unique Weekly Qualified In-Tab.

### County Coverage Sample

The *County Coverage* sample includes all Diary In-Tab and PPM Persons 12+ Unique Weekly Qualified In-Tab collected during the fieldwork year. (Note: in the context of *County Coverage*, the term "In-Tab" refers specifically and exclusively to Diaries, the term "Unique Weekly Qualified In-Tab" refers to the number of different Panelists that were included in the *County Coverage* sample, and the term "Total Weekly Qualified In-Tab" refers to the total number of measurement weeks contributed to the report by In-Tab Panelists.)

### The Fieldwork Year

The period of time from which data included in a *County Coverage* report was collected is referred to as the "the fieldwork year."

A Diary-measured county's fieldwork year includes each of the 12-week Diary surveys that Arbitron fielded in that county during the calendar year. Arbitron surveys counties either four times or twice per year, as applicable, based upon the service specifications for the Market to which the county is home.

In PPM-measured counties, the fieldwork year includes all days of the calendar year *minus* the first few days of January that are included in the previous fieldwork year *plus* the first few days of January of

the subsequent calendar year. (The PPM Holiday report spans New Year's week, and thus includes days of measurement from two calendar years.)

In counties that converted from Diary measurement to PPM measurement during the fieldwork year, the fieldwork year includes *either* the county's Diary surveys *or* PPM measurement days (the instrument in use for the majority of measurement days in the calendar year is the data selected).

### Counties and County Clusters

For a county to be listed in a *County Coverage* report, a minimum of 30 in-tab or 30 Unique Weekly Qualified in-tab must have been collected from the county during the fieldwork year. Arbitron periodically conducts analyses to predict if a Diary-measured county will fall short of its In-Tab minimum; in counties where Arbitron estimates this to be reasonably possible, Arbitron may elect to place additional sample.

Should a county fall short of the "30" In-Tab minimum, Arbitron will combine or "cluster" the county with an adjacent county within the same state and time zone that Arbitron measured via the same instrument. As a matter of policy, Arbitron will not cluster any county from which zero in-tab was collected; due to the nature of Arbitron's sampling procedures, it is very unlikely that zero in-tab will be returned from any county.

When determining the most appropriate counties to cluster, Arbitron conducts an analysis of average weight indexes. In this analysis, Arbitron calculates the average weight for each county under consideration for clustering by dividing the sum of all weights by the total number of respondents in the county. Next, Arbitron compares the average weight for the county to the average weight of other counties considered for clustering. Counties with an average weight index of less than 2.0 are eligible for clustering. In circumstances where the weight index is equal to or greater than 2.0, Arbitron conducts additional analysis to estimate if the weights are too dissimilar to cluster.

In circumstances where the analysis yields multiple counties equally qualified for clustering, Arbitron may also consider

## Arbitron Radio County Coverage

marketplace conditions or broadcaster preference when determining counties to cluster. Determination of all county clustering remains solely and unilaterally with Arbitron. (Independent cities that do not meet the minimum in-tab are automatically clustered with the county in which the city is physically located.)

Arbitron weights clustered counties and reports audience estimates for them as if the cluster were a single county.

### Modeled PPM Media Days

During *County Coverage* processing, Arbitron imputes the final credited results of in-tab PPM media days to other media days when the Panelist was not in-tab. Arbitron imputes final credit results on a same day-of-week model with, for example, listening from one of the previous four Tuesdays copied to an out-of-tab Tuesday. Arbitron reports the percentage of media days modeled within a county via a report available for view on [www.my.arbitron.com](http://www.my.arbitron.com). Arbitron reminds users of the *Radio Market Report* that the modeling of PPM media days is not an element of the *Radio Market Report* service's methodology.

### Sample Weighting

The *County Coverage* service uses a cell weighting methodology that is materially different from the iterative marginal weighting methodology it uses for the *Radio Market Report* service.

In *County Coverage*'s cell weighting methodology, Arbitron assigns each In-Tab Diary or PPM Panelist-week within the county or county cluster a weight. In Diary-measured counties, Arbitron determines this weight by dividing that cell's population by that cell's In-Tab. In PPM-measured counties, Arbitron determines this weight by dividing that cell's population by that cell's Unique Weekly Qualified in-tab (adjusted for the number of weeks each Panelist was in-tab). Arbitron uses respondent ethnicity as a weighing variable in all counties to which it applied ethnic controls to all surveys or report periods (as applicable) for the whole of the fieldwork year.

For *County Coverage* weighting, Arbitron uses the county's population estimates for the Fall survey/Oct-Nov-Dec report periods. For split-county population

estimates, Arbitron allocates county population estimates to the respective splits based on zip code population estimates as provided to Arbitron by its data vendor.

### Weight Factoring

Arbitron applies a weighting factor to *County Coverage*'s Unique Weekly Qualified In-Tab sample to normalize it to the format of Diary in-tab; this type of factoring is necessary to account for the fact that the number of weeks that a single Panelist may contribute to *County Coverage* may range from one to 52.

### Minimum Reporting Standard

The *County Coverage* service has a multi-tiered minimum reporting standard; the standard applicable to a particular county or county cluster depends upon the survey instrument used to measure the county and the total number of in-tab returned from the county during the fieldwork year.

### Diary-Measured Counties

In Diary-measured counties from which fewer than 350 Diaries were in-tab during the fieldwork year, Arbitron reports audience estimates for any station credited for at least one quarter-hour in three (or more) Diaries.

In Diary-measured counties from which 350 or more Diaries were in-tab during the fieldwork year, Arbitron reports audience estimates for any station credited in at least 1% (or more) of the Diaries.

### PPM-Measured Counties

In PPM-measured counties from which fewer than 350 Unique Weekly Qualified in-tab were collected during the fieldwork year, Arbitron reports audience estimates for any station credited for at least one quarter-hour in three (or more) of the Unique Weekly Qualified in-tab.

In PPM-measured counties from which 350 or more Unique Weekly Qualified in-tab were collected during the fieldwork year, Arbitron reports audience estimates for any station credited for at least one quarter-hour in 1% (or more) of the Unique Weekly Qualified in-tab.

### Stations Eligible for Reporting

Commercial, FCC-licensed analog AM and FM radio stations and Total Line Reporting combos are eligible for reporting in *County Coverage*. (Listening to digital radio stations that are part of a Total Line Reporting combo is included in the estimates reported for the combo.)

### Total Line Reporting in County Coverage

When it processes *County Coverage*, Arbitron uses the Fall station information definitions to determine a station's reporting status for the fieldwork year. This approach affects what the *County Coverage* audience estimates Arbitron reports for all TLR combos, primary stations, and partner stations represent.

It is not possible in this venue for Arbitron to map and describe how all possible Total Line Reporting scenarios will be manifest in *County Coverage* audience estimates. It is always true, however, that the *County Coverage* audience estimates bearing the label of a primary TLR partner station represents listening credited to that station for the whole of the fieldwork year *plus* listening credited to that station's partner stations for those surveys when the stations requested Total Line Reporting.

### Reporting Sequence

Audience estimates for stations that met minimum reporting standards in the county are listed in alphabetical order, with stations that are home to a Metro grouped ahead of stations that are not.

### "Others"

Following individual station estimates, Arbitron reports an estimate labeled as "Others." This estimate is an aggregate of listening credited to stations that did not meet the applicable minimum reporting standards, stations that are not eligible for reporting in *County Coverage*, stations that signed off-air during the fieldwork year, Diary-reported listening that Arbitron could not credit to any station, and credit assigned to stations that were removed from the report.

## Arbitron Radio County Coverage

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### Station Line-Up Adjustment

Arbitron removes stations from a county's *County Coverage* report for which it is illogical to report audience estimates in that county. Examples of stations that Arbitron may elect to remove from a county's line-up include stations that have no signal coverage in the county, stations in distant states, stations that received credit due to respondent travel, etc. Arbitron uses information from a variety of resources when determining if it should remove a station from a county's line-up, including listening data from previous fieldwork years, data on file with the FCC, information provided by data vendors and other sources.

### Special Station Activities

Special Station Activities notices reported in a *Radio Market Report*/Arbitron eBook are generally not reprinted in a *County Coverage* report. However, Arbitron reserves the right to cite special station activities in the report as circumstances warrant in Arbitron's judgment.

### Statistical Reliability

In 2006, Arbitron conducted a replication study to estimate reliability factors for the *County Coverage* service. These factors are used to calculate ESBs for the *County Coverage* service. Authorized users of *County Coverage* data can find the statistical reliability of an estimate and information on how to interpret the confidence interval by using the online *County Coverage* standard error calculator. The *County Coverage* reliability estimator is available via the user's my.arbitron.com page.

### Restrictions on Use and Limitations, Disclaimer of Warranties, Warnings

See Chapter 15 of this *Local Syndicated Services Description of Methodology* for important information regarding the restrictions on use, limitations, disclaimer of warranties, and other warnings related to data published as a part of the *Radio Market Report*/Arbitron eBook service; these also apply to Arbitron's *County Coverage* service.

### County Coverage Reservation of Rights

Arbitron reserves the right to exercise its judgment in modifying, waiving, or suspending any policy, procedure, or element of its *County Coverage* methodology that would appear to Arbitron to be unreasonable, illogical, or impractical in light of known conditions. Additionally, Arbitron reserves the right not to produce *County Coverage* data and listening estimates in circumstances where there is insufficient data available to meet its minimum research standards or any event has jeopardized the reliability of the data.

### MRC Accreditation

The Arbitron *Radio County Coverage* service is an MRC-accredited service. MRC first granted accreditation to the *County Coverage* service in 2003.

# Restrictions on Use of Reports and Limitations

## Restrictions on Use of Reports

All Arbitron *Radio Market Reports*/Arbitron eBooks, including the audience estimates and maps contained therein, software and information related thereto, are confidential, proprietary to, and protected by various intellectual property laws, including but not limited to state and federal copyright laws by Arbitron. They are provided to properly licensed Arbitron subscribers pursuant to the terms and conditions of their executed license agreement(s) with Arbitron (whom are neither in breach nor default with Arbitron), and in accordance with the restrictions and limitations on use stated herein.

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source and that Arbitron's data, estimates, reports and software are copyrighted by Arbitron. Users of the *Radio Market Report*/Arbitron eBook service shall also mention that the audience estimates are subject to all qualifications and limitations stated in the Arbitron report and shall include the appropriate Market, survey period, type of audience estimate, applicable daypart(s) and applicable demographic group(s) (e.g., New York Metro, January 2010, Average Quarter-Hour Estimates, Monday-Friday 6AM-Midnight, Persons 25-54).

A subscriber to any particular *Radio Market Report*/Arbitron eBook may not use or reference, in whole or in part, the demographic data or audience estimates stated in the "Target Listener Trends" section that reference a *Radio Market Report*/Arbitron eBook to which the subscriber did not subscribe.

The *Radio Market Report*/Arbitron eBook, nor the map contained therein, nor any audience estimate, nor software, or Arbitron products related thereto, may be used in any manner or for any purpose by non-subscribers without the express written permission of Arbitron.

Users of audience estimates are also referred to the current policies of the Federal Trade Commission relating to the use of audience estimates.

## Warning

**All Arbitron audience estimates and maps are proprietary and confidential.** Each Arbitron audience estimate and map are protected by various intellectual property laws, including but not limited to U.S. federal and state copyright laws. The unauthorized use of any Arbitron audience estimate or map may constitute willful copyright infringement that can subject a willful infringer to statutory damages of up to \$150,000 per act of infringement and criminal penalties of up to 10 years imprisonment and a \$500,000 fine pursuant to Chapter 5, Sections 504 and 506 of Title 17 of the U.S. Code, and attorney's fees associated with any such enforcement of Arbitron's intellectual property rights. All users of Arbitron's *Radio Market Report* are referred to "Restrictions on Use of

Arbitron Reports and Limitations," on page 15.1.

## DISCLAIMER OF WARRANTIES

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Additionally, Arbitron reserves the right not to produce Arbitron data, and/or listening estimates, and/or any Arbitron report(s) and/or service(s) whenever, in its judgment, insufficient data are available to meet its minimum research standards or any event has jeopardized the reliability of the data.

## Restrictions on Use of Reports and Limitations

### Liabilities and Limitations of Remedies

The sole and exclusive remedy for Arbitron's liability of any kind, at law or in equity, including without limitation liability for negligence or delay with respect to any service, shall be limited to an amount as set forth in the license agreement between Arbitron and its subscriber. In no event shall Arbitron be liable for special, incidental, consequential or punitive damages, nor shall Arbitron be subject to injunctive relief with respect to the data and estimates provided by any service.

### Special Notices

To the extent that any provisions contained in this *Local Syndicated Services Description of Methodology* are directly inconsistent or directly conflict with any provision contained in the "Special Notices" section of the *Radio Market Report/Arbitron eBook*, such Special Notices are deemed to supersede and/or amend this *Local Syndicated Services Description of Methodology*.

### FTC Guidelines

The FTC has issued Guidelines regarding deceptive claims of Broadcasting Audience Coverage (issued July 8, 1965). These Guidelines are still in effect and are reprinted in full here:

The Commission believes that...television and radio broadcasters, other persons selling advertising or broadcasting time or programs, advertising agencies, and advertisers should, in making claims based on survey results, or data, observe the following basic Guidelines:

1. A person (or firm) making a claim concerning the size, composition or other important characteristics of a listening or viewing audience is responsible for seeing to it that the claim is truthful and not deceptive. If he bases his claim on the results of an audience survey, he assumes responsibility for interpreting the data accurately. Thus, he should not engage in activities calculated to

distort or to inflate such data—for example, by conducting a special contest—or otherwise varying his usual programming, or instituting unusual advertising or other promotion efforts, designed to increase audiences only during the survey period. Such variation from normal practices is known as "hyponing." It is also improper to cite or quote from a survey report or survey data in such a way as to create a misleading impression of the results of the survey, as by unfairly basing audience claims on results achieved only during certain periods of the broadcast day or on a survey of only a segment of the total potential audience.

2. Audience data are based on sample surveys not derived from complete measurements of audiences. As such, they are statistical estimates, and, at best, are of only limited reliability due to errors and distortions inherent in the statistical methods yielding such data. Claims as to audience coverage based on audience surveys should therefore be qualified in recognition of the fact that survey data are inherently imperfect. Any such claim should be accompanied by a disclosure that any figures cited or quoted are estimates only or are based upon estimates, and are not accurate to any precise mathematical degree unless based upon a true probability sample. Audience surveys are not in practice based upon true probability samples.
3. Such claims should not be based on data obtained in a survey that the person (or firm) making the claim knows or has reason to know was not designed, conducted and analyzed in accordance with accepted statistical principles and procedures, reasonably free from avoidable bias and based on a properly selected sample of adequate size. Such claims should not be based on survey reports or data that do not reasonably reflect current audience coverage, either because the passage of time has made the data outdated, or because a later survey report encompassing essentially the same area has been published, or because of the entry or departure of a competitor, or for any other reason.

These Guidelines are offered to broadcasters and others concerned for consideration in avoiding possible violation of the Federal Trade Commission Act.

### Limitations

In addition to sources of possible error described elsewhere in this *Local Syndicated Services Description of Methodology*, the user should be aware of the following limitations:

- a. The sample frame for all of Arbitron's Diary surveys includes landline telephone numbers. Known commercial establishments and other known nonresidential facilities listed in directories are specifically excluded from the sample frame. Steps are taken during Diary placement to further exclude: business or other nonresidential telephone numbers inadvertently included in the sample; residents of media-affiliated households; and group quarters residences containing 10 or more individuals 12 years of age and older. Additionally, all possible telephone listings may not be included in the directories available to Survey Sampling International, LLC when Arbitron places its sample order, which may affect the identification of qualifying telephone hundred blocks. Such excluded persons may have listening habits that differ from those of persons included in the survey.
- b. The sample frame for all of Arbitron's panels, other than the Houston-Galveston panel, includes households with landline telephone service and households with cellular telephone service that do not also have landline telephone service. Known commercial establishments and other known nonresidential facilities listed in directories are specifically excluded from the sample frame. Steps are taken during sampling and recruitment to further exclude: business or

## Restrictions on Use of Reports and Limitations

other nonresidential telephone numbers inadvertently included in the sample; residents of media-affiliated households; and group quarters residences containing 10 or more unrelated individuals or containing 17 or more individuals regardless of relationship. Additionally, all possible telephone numbers may not be included in the frame employed for sample selection. Persons not included in the sample may have media habits that differ from those of persons included in the sample.

- c. The sample for the Houston-Galveston panel contains residential addresses only. Known commercial establishments and other known nonresidential facilities listed in address sources are specifically excluded from the sample frame. Steps are taken during recruitment to further exclude: business or other nonresidential addresses inadvertently included in the sample; residents of media-affiliated households; and group quarters residences containing 10 or more unrelated individuals or containing 17 or more individuals regardless of relationship. Additionally, all possible residential addresses may not be included in the frame employed for sample selection. Persons not included in the sample may have media habits that differ from those persons included in the sample.
- d. Effort is made to exclude households with media affiliation. The inclusion or exclusion of such households from the sample is dependent upon information revealed by the sample household in response to Arbitron's media affiliation question at the time of recruitment, or anytime thereafter, or from other sources.
- e. There may be instances where Arbitron instructions are not followed by the interviewer or Panel Relations staff. Also, the

interviewer may not be under the direct control of Arbitron, because independent marketing research suppliers are used by Arbitron.

- f. Non-responding Persons may have listening habits that differ from those of respondents.
- g. Non-responding Persons and other limitations in the original designated sample prevent the In-Tab sample from being a perfect probability sample.
- h. The sample design and/or response patterns may preclude proportional representation of certain groups within the population, such as ethnic groups, racial groups, or persons in certain income or education groups. Such persons may have radio listening habits that differ from those of other persons.
- i. The dominant language spoken by a Diarykeeper or Panelist may influence his or her listening behavior, and Persons whose dominant language is not English may be differentially represented in the sample. Arbitron currently weights its In-Tab sample based upon the dominant language spoken by respondents only where dominant Spanish-language-usage population estimates are available.
- j. The limitations in data from Nielsen Claritas, Inc., are inherent in the Arbitron estimates based thereon. The population estimates used in designing and weighting the sample are based on the decennial U.S. Census and are subject to all the limitations inherent therein. In addition, population estimates are subject to limitations such as sampling errors, errors in locating undocumented populations and processing and recording errors. Furthermore, the sources used to update populations between decennial Census dates may not include adjustments for known or unknown overcounts

or undercounts of various segments of the population, including undocumented population groups. In addition, annual population updates may be based on the results of sample surveys and are subject to their respective limitations.

- k. The limitations in data provided by Nielsen Claritas, Inc., the third-party vendor that supplies language-usage population estimates to Arbitron, are inherent in the Arbitron estimates based thereon. The language-usage population estimates that Arbitron uses in weighting the sample are based upon this third-party vendor's survey results and, thus, are subject to all of the limitations existing in those results, which may include: sampling errors, methodological errors, processing errors and recording errors. Furthermore, any external data sources that Nielsen Media Research, Inc., may use to update or improve its language-usage population estimates may not include adjustments for known or unknown overcounts or undercounts of various segments of the population or other known data limitations.
- l. The limitations in data from Third Wave Research, the third-party vendor that supplies Market information for Arbitron's Puerto Rico service, are inherent in the Arbitron estimates based thereon. The population estimates from Third Wave Research used in designing and weighting the sample are based upon the decennial U.S. Census and are subject to all of the limitations inherent therein. In addition, population estimates are subject to limitations such as sampling errors, errors in locating undocumented populations, and processing and recording errors. Furthermore, the sources used by Third Wave research to update populations between decennial Census dates may

## Restrictions on Use of Reports and Limitations

not include adjustments for known or unknown over- or undercounts of various segments of the population, including undocumented population groups. In addition, annual population updates may be based on the results of sample surveys and are subject to their respective limitations.

- m. Zip code information used to produce the *Radio Market Report*/Arbitron eBook is subject to defects and limitations that are inherent in Arbitron estimates based thereon.
- n. Panelists may not wear or carry their Meters from rise to retire as instructed, and to the extent this occurs, the media exposure data collected may be incomplete.
- o. Encoding devices placed at media outlets may malfunction and/or be disconnected in such a way as to prevent the media sources from being properly encoded. To the extent this condition is known by Arbitron, it will be noted in the applicable report.
- p. Diaries, or portions thereof, may be completed improperly if the Diary instructions are not followed by Diarykeepers. Such Diaries may be unusable and excluded from the survey. Some Diary entries may have been made on the basis of hearsay, recall, Diarykeeper approximations, or could have been influenced by comments made by the interviewer or others to Diarykeepers.
- q. In addition to direct responses to the qualitative questions at the back of the qualitative Diary, the final qualitative database may contain derived responses to qualitative questions. For example, the qualitative database contains information on Household Size. Household Size can be determined by combining a response to the qualitative question for Number of Children less than 12 years of age with placement Diary information for Number of Persons 12+ (stored in Arbitron's respondent database).
- r. Human and computer processing errors may occur before or after electronic Meter data are received by Arbitron. Consequently, the degree of variance in the data may be greater than that expected from sampling variance alone.
- s. The data upon which Arbitron has based its In-Tab sample weighting, including racial or ethnic identification, may not be precise.
- t. Defects and limitations found in data supplied by others are inherent in Arbitron estimates based thereon.
- u. Data analysis, preprocessing preparation or ascription of data may affect media exposure data from being modified or excluded from the In-Tab sample.
- v. Data analysis, preprocessing preparation, ascription of the data or post-survey week telephone validation calls may affect Diary listening entries before the data are projected. Diaries, or portions thereof, may thereby be modified or excluded from the survey. These procedures may affect the audience estimates or the station's ability to meet MRS.
- w. Arbitron conducts research involving new methods of improving panel cooperation and/or securing additional information from Panelists. Occasionally, a portion of this research may be integrated with syndicated data and, if and when so done, may cause the degree of variance in the data to be greater than that expected from sampling variance alone.
- x. Certain data, such as call letters in effect, format or programming, are based on data supplied by stations, the FCC, industry publications or notices and/or other sources. These data may not be accurate or timely. Some of the data may affect the way certain audience estimates are reported.
- y. Rounding occurs at various stages in the determination of audience estimates, at demographic and daypart summation levels. Due to rounding, mathematical manipulation by the user of estimates for narrow dayparts and/or demographic groups may produce a result that may be incongruent with estimates for broader dayparts and/or demographic groups.
- z. Situations in which stations use or have used the same call letters or frequency, or have changed call letters or frequency, may result in Diarykeeper confusion in correctly identifying the station to which the listening occurred.
- aa. Estimates reported for different reporting periods may not be comparable over time due to: methodological or operational changes; changes in survey area definitions or populations; changes in a station's or a combo's Total Line Reporting status; conditions not under Arbitron's control, such as changes in station operations/facilities/special activities; or other factors.
- bb. Arbitron places sample at the county (or county equivalent) level, not the zip code level. From reporting period to reporting period, there may be greater variation in the number of Panelists at the zip code level than at the county (or county equivalent) level.
- cc. For radio stations that are 100 percent simulcast, there are methods of signal routing that technically prohibit the installation of PPM encoding equipment into the backup air chains of one or more of the encoded simulcast partners. Examples of these signal routes include backup air chains that are fed by over-the-air reception of other simulcast partner stations, or simulcast partner

## Restrictions on Use of Reports and Limitations

stations that are fed by satellite. For simulcasting stations where the backup airchain of an individual simulcast partner is fed by one of these methods, the simulcast partner will redistribute previously encoded content. This method of encoding may affect the way media exposures are credited to individual partner stations and may affect the way audience estimates are credited or reported for the simulcasting stations.

Professional audience estimates may differ from those in the applicable *Radio Market Report(s)*/Arbitron eBooks.

PPM ratings are based on audience estimates and are the opinion of Arbitron and should not be relied on for precise accuracy or precise representativeness of a demographic or radio market.

- dd.** The digital radio Band ID labels referenced in this report are proprietary to Arbitron and protected under terms of Arbitron's subscriber agreements and/or federal copyright and trademark law. Authorized subscribers and purchasers of Arbitron data may display and use the Band ID labels provided the user clearly states that the labels are proprietary to Arbitron (e.g., "Arbitron Inc. retains all copyrights or other legal rights to the Band ID labels used herein."). The reports may be used in accordance with the applicable license agreement between the subscriber and Arbitron. All other uses, unless Arbitron's prior written approval is obtained, are expressly forbidden, and may subject the user to legal action, damages and recovery of Arbitron's legal expenses incurred in enforcing its intellectual property and proprietary rights.
- ee.** Information on a station's Internet streaming status is generally provided by the station. Since this information may not be timely or accurate, some reported radio station listening may be based on listening to a station's Internet stream that does not contain the same commercials as the broadcast version of the station.
- ff.** Due to methodological considerations in non-embedded condensed Markets, Maximi\$er and Media

## Glossary of Selected Terms

### Important Information

This glossary provides Arbitron's formal business definition for selected terms as they are generally used in the context of Arbitron's services and reports. Most of the terms and definitions in this glossary apply to both Diary surveys and PPM Panels. For terms that have different meanings in the context of Diary and PPM, the service to which the definition applies is noted in bold face type in the definition's header. For terms that apply exclusively to either Diary or PPM, the applicable service is noted in light type enclosed in parentheses.

### Glossary of Selected Terms

**Alias Call Sign:** Label used to denote stations in Arbitron reports to whom a call sign has not been assigned by the FCC (or other governmental agency), stations that have been assigned a call sign that Arbitron is not able to report, and LPFM stations whose call sign is also the call sign of an FM station. Alias call signs are determined by Arbitron. Generally, an alias call sign is either three or four characters in length, starts with the letter "C" or the letter "X," and has not been allotted for use, in any country, by the International Telecommunications Union.

**Alternates:** (PPM) Non-Basic households within a sampling unit recruited to participate in the Panel if the Basic household cannot be recruited, refuses to participate in the Panel or cannot be maintained in the Panel.

**Alternate City of Identification:** A city other than its legally authorized city of license with which a station may regularly identify on-air.

**Arbitron eBook:** (See "Radio Market Report.")

**Ascription:** A probabilistic statistical procedure that assigns values for missing or incomplete data.

**Average Daily Cume:** (PPM) The number of different (unduplicated) persons within a specific demo that are exposed to an encoded station for at least five minutes in a quarter-hour within a specified time period during an average day.

**Average Daily Time Exposed (ADTE):** (See "Time Spent Listening.")

**Average Quarter-Hour Persons, Diary:** The estimated average number of persons who listened to a station for a minimum of five minutes within a reported daypart.

**Average Quarter-Hour Persons, PPM:** The estimated average number of persons exposed to an encoded station for at least five minutes within a quarter-hour during a daypart.

**Average Quarter-Hour Rating:** A station's Average Quarter-Hour Persons estimate expressed as a percentage of the appropriate estimated population.

**Average Quarter-Hour Share:** A station's Average Quarter-Hour Persons estimate expressed as a percentage of the Metro Total Average Quarter-Hour Persons estimate within a reported daypart.

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

**Average Time Exposed (ATE):** (See "Time Spent Listening.")

**Average Weekly Cume Rating:** The number of different (unduplicated) persons exposed to an encoded station for at least five minutes within a quarter-hour within a specified time period expressed as a percentage of the population.

**Basics:** (PPM) A randomly selected household(s) chosen to represent a sampling unit in the Panel.

**Below the Line:** Describes where in the report a station's audience estimates may be listed (e.g., below a special distinguishing line). A dashed line is used to distinguish stations that are home to the Metro or DMA (as applicable) from those that are not; a pink line may be used to distinguish stations that Arbitron believes to have engaged in activities with Rating Bias or Rating Distortion potential.

**Broadcast Time Stamp:** (PPM) Identifier within a CBET code that indicates the time that the signal was originally broadcast.

**Compliance Rate:** (PPM) The number of In-Tab Panelists divided by the number of Compliance-Capable Persons.

**Compliance Capable Person:** (PPM) An online Panelist that is not prevented from being In-Tab on a given media day due to travel away from home or due to a technical problem with his or her Meter or household equipment.

**Condensed Radio Market Report (CRMR):** (Diary) One of two types of the Arbitron Radio Market Reports/Arbitron eBook. Condensed Reports have smaller sample objectives for the Metro and TSA, and contain fewer dayparts and demographics than Standard Radio Market Reports. Estimates published in Radio Market Reports for non-embedded condensed radio Markets consist of averages from the two most recent survey periods.

**Country of Origin:** Country or region of origin as reported to Arbitron by Hispanic Panelists. Arbitron determines a Panelist's country of origin based upon the outcome of interviews with the Panelist's household. Arbitron bases its country/region classifications, and the wording of the applicable interview questions, on those used in the U.S. Census Bureau's American Community Survey. Arbitron reports country of origin within select services and reports.

**Cume Composition:** (PPM) An encoded station's Weekly Cume Persons divided by its Total Persons 6+ Weekly Cume audience.

**Cume Duplication:** The percentage of estimated Cume Persons for one station who also listened to another specific station.

**Cume Persons, Diary:** The estimated number of different persons who listened to a station for a minimum of five minutes in a quarter-hour within a reported daypart.

**Cume Persons, PPM:** The estimated number of different persons within a specific target demo exposed to an encoded station for at least five minutes in a quarter-hour within a specified time period during an average week.

**Cume Rating:** The estimated number of Cume Persons expressed as a percentage of the appropriate estimated population.

**Daily Weight:** (PPM) Numeric value assigned to an In-Tab Panelist for the given media day for the purpose of

## Glossary of Selected Terms

projecting and estimating audience estimates to the population. The daily weight reflects the number of persons in the Panelist's geographic, sex and age group, and (if applicable) other groups, including dominant language (Spanish/English in Metros where Spanish-dominant language usage universe estimates are available), employment status, the presence of children in the household and telephone service status (e.g., cell phone or landline phone).

**Daypart:** A time period for which audience estimates are reported (e.g., Monday-Sunday 6AM-Mid, Monday-Friday 6AM-10AM, Weekend 6AM-Mid).

**Deinstalled Household:** (PPM) a household that was at one time, but is not currently, participating in the Panel.

**Demographic Groups (Demos):** Classifications of populations according to sex, age, race, ethnicity, income, etc.

**Designated Delivery Index (DDI):** A measure of sample delivery in Arbitron's Diary surveys and PPM Panels that compares in-tab to the In-Tab target. DDI is independent of proportionality and may be used to measure sample delivery for an entire Market, or for specific demographic or geographic subgroups. DDI reflects the extent to which the In-Tab sample aligns with "perfect" sample distributions based on the universe and the applicable In-Tab target. Unlike a traditional proportionality index (which measures share of In-Tab sample by demo compared to the universe), DDI is not a share statistic and is not affected by higher or lower actual In-Tab results for other demos. DDI is determined as follows:  $[(\text{Demo or Geo In-Tab}) / (\text{Demo or Geo Population Percent} * \text{Market Total Target})] * 100$ . For Diary surveys, DDI is determined for Persons 12+ based on the whole 12-week survey In-Tab sample; for PPM Panels, DDI is determined for P6+ using Average Daily In-Tab.

**Designated Market Area (DMA):** Nielsen Media Research, Inc.'s geographic Market design that defines each television Market exclusive of others based on measurable viewing patterns. Every county (or county equivalent) in the United States is assigned exclusively to one DMA.

**Diary Mentions:** The number of different In-Tab Diaries in which a station received credit for at least one quarter-hour of listening.

**Diarykeeper:** Any individual whom Arbitron determines to be eligible to receive and to whom survey materials are sent.

**Diary-PPM Combo DMA:** An Arbitron measured DMA in which Metro sampling units are measured via Meters and non-Metro sampling units are measured by Diaries.

**Differential Survey Treatment (DST):** Special survey procedures used to increase participation rates of targeted demographic groups (e.g., Black, Hispanic, young males) that tend to be underrepresented in surveys.

**Digital Radio Station:** Term used to refer to radio stations that broadcast in digital format rather than an analog format. Types of digital stations include digital AM, digital FM, HD-multicast, and the Internet streams of radio stations. The term is also used as a noun to refer to the group of all digital stations.

**Double Encoding:** (PPM) a period when more than one of the station's encoders is simultaneously encoding the station's audio.

**Effective Sample Base (ESB):** An estimate of the size of a simple random sample that would be required to produce the same degree of reliability (amount of sampling error) as the sample for a complex survey such as Arbitron's.

**Encoder:** (PPM) Audio equipment or software that embeds a CBET code into an audio signal of a broadcast.

**Encoder Time Stamp:** (PPM) Characters within a length of encoding that indicates the time when the encoded audio was broadcast.

**Encoding Monitor:** (PPM) Piece of audio equipment provided to an encoded station that is perpetually listening to the encoded station's audio to ensure that the audio contains encoding.

**Ethnic Composition, Diary:** Audience estimates for Total, Black and/or Hispanic persons expressed in hundreds (00), ratings and composition percents. Ethnic composition estimates are based

on total Metro In-Tab Diaries and are reported for the Metro if at least 30 Black and/or Hispanic Diaries are in-tab for the Metro, as applicable.

**Ethnic Composition, PPM:** Audience estimates for Total, Black and/or Hispanic persons, ratings and composition percents in the Metro. Ethnic composition estimates are based on total Metro In-Tab Panelists and are reported for the Metro if at least 30 Black and/or Hispanic Panelists are in-tab for the Metro, as applicable.

**Ethnic Controls:** The collective term for procedures designed to improve the representation of Black and Hispanic populations in Arbitron's services. These procedures include Black and Hispanic Differential Survey Treatments, Black and Hispanic weighting of the In-Tab sample, High-Density Black and Hispanic Areas, and bilingual (Spanish-English) survey materials for Hispanics.

**Group Quarters, Diary:** For Arbitron's Diary survey sampling purposes, group quarters refers to living arrangements such as college dormitories, military barracks, nursing homes and prisons, plus dwelling units of 10 or more individuals. However, residents of college dorms, military housing, etc., are considered eligible to participate in the survey if the telephone number is assigned to a private telephone serving fewer than 10 individuals.

**Group Quarters, PPM:** For Arbitron's PPM Panel sampling purposes, group quarters refers to living arrangements such as college dormitories, military barracks, nursing homes and prisons, plus dwelling units of 10 or more individuals. However, residents of college dorms, military housing, etc., are considered eligible to participate in the Panel if the telephone number is assigned to a private telephone serving fewer than 10 unrelated persons or fewer than 17 related persons.

**High-Density Area (HDA):** A zip code-defined sampling unit—either a High-Density Black Area (HDBA) or High-Density Hispanic Area (HDHA)—that may be established in a county within the Metro of an ethnically controlled Market.

**Home Station:** A station licensed to a city located within a particular Arbitron radio Metro (or a reported Nielsen Media

## Glossary of Selected Terms

Research, Inc. DMA). A station that is not licensed to a city within an Arbitron radio Metro may be granted "home" status if it meets certain criteria.

**Householder:** Arbitron utilizes the U.S. Census Bureau's definition of householder as the person "...in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife..." (U.S. Census Bureau, 2004).

**Installed Household:** (PPM) a household that has been sent and has successfully installed each household member's PPM and the household's collection hub.

**In-Tab/Usable Sample:** Sample that is in-tabulation; sample that is used in the production of audience estimates.

**In-Tab Rate:** (PPM) The number of In-Tab Panelists divided by the total number of Installed Panelists.

**Layering:** The embedding of multiple CBET codes into an audio broadcast.

**Listed Sample:** For Arbitron's sampling purposes, telephone numbers for which names and mailable addresses are published in telephone directories.

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

**Market Totals:** (See "Metro Totals/DMA Totals.")

**Media-Affiliated Household, Diary:** A household in which the person being recruited to participate in the survey, or anyone else in the household, or anyone that the contact knows directly, is employed by a radio station or television station. Media-affiliated households are not eligible to participate in the survey.

**Media-Affiliated Household, PPM:** A household in which the person being recruited to participate in the Panel, or anyone else in the household, or anyone the contact knows directly, is employed

by a radio station or network, a television station or network, a cable or satellite station or network, or an advertising agency. Media-affiliated households are not eligible to participate in the Panel.

**Media Day:** (PPM) Time periods corresponding to individual days of the week used to organize Panelist exposure data. The media day in Arbitron's panel design begins at 4AM and ends at 4AM the next day.

**Media Rating Council® (MRC):** An organization that accredits media ratings services. The MRC mandates and performs annual audits of the compliance of a service with certain minimum standards.

**Meter Time Stamp:** (PPM) Information appended to CBET encoding that indicates the time when the Panelist's Meter was exposed to the encoding.

**Metro In-Tab Target Index, Diary:** The ratio of the number of Metro In-Tab Diaries to the Metro sample target, generally expressed as a whole number.

**Metro In-Tab Target Index, PPM:** The ratio of the Metro's Average Daily In-Tab Panelists to the Metro sample target, generally expressed as a whole number.

**Metro Survey Area (Metro):** The primary reporting area for local radio audience estimates. Metro Survey Area definitions may correspond to the federal government's Office of Management and Budget's (OMB) Metropolitan Statistical Area, subject to exceptions dictated by historical industry usage or other marketing considerations as determined by Arbitron.

**Metro Totals/DMA Totals, Diary:** Total reported listening to radio in the Metro or DMA (could refer to AQH or Cume estimates), which includes listening to reported stations, non-qualifying commercial stations, noncommercial stations, satellite radio, and unidentified listening. This is also referred to as Persons Using Radio (PUR).

**Metro Totals PPM:** Total reported exposure to encoded media in the Metro (could refer to AQH or Cume estimates). This is also referred to as Persons Using Measured Media (PUMM).

**Minimum Reporting Standards (MRS):** Criteria used to determine which stations

qualify to be listed in Arbitron *Radio Market Reports*/Arbitron eBooks.

**Offline Status:** (PPM) Status indicating that a Panelist is not eligible to be in-tab.

**One Percent (1%) In-Tab Criterion:** (Diary) a radio station meets the one percent In-Tab criterion if the station was mentioned in at least one percent of the In-Tab Diaries returned from a given county during the previous available survey year. If two or more stations are eligible for credit of the same Diary entry, and only one of the eligible stations meets the one percent In-Tab criterion, that station receives credit for the entry. If two or more stations meet the one percent In-Tab criterion, credit for the entry is determined via ascription.

**Online Status:** (PPM) Status indicating that a Panelist is eligible to be in-tab.

**Outside Station:** A station that is not "home" to a particular Metro and/or DMA.

**Panel:** A research methodology in which similar measurements are made on the same sample at different points in time. "Panel" may also be used as a singular noun to refer to the group of all Panelists.

**Panelist:** (PPM) A person who has been sent and has installed his or her PPM.

**Panel Management:** (PPM) the processes by which installed Panelists are encouraged to wear or carry their Meters and Panelist compliance with this instruction is monitored.

**Persons-Per-Diary Value (PPDV):** The numerical value assigned to each In-Tab Diary for the purpose of projecting audience estimates to the population. The PPDV reflects the number of persons in the geographic, sex, age, and (if applicable) ethnic and/or language usage (English/Spanish) group represented by each In-Tab Diary after sample balancing has been performed.

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

**Persons Using Measured Media Percent (PUMM %):** Persons Using Measured Media expressed as a percentage of the target population.

**Persons Using Radio (PUR):** (See "Metro Totals/ DMA Totals.")

## Glossary of Selected Terms

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

**Pre-alerted Survey:** A survey in which survey respondents are notified of their selection to participate in the survey before the survey takes place. This pre-notification to the sampled person or household is usually made by telephone or mail contact. It has been shown to increase both response and data quality relative to similar surveys having no pre-notification of respondents.

**Premium:** An incentive intended to encourage participation in the survey or Panel, or offered as a “thank you” for participation.

**Qualification Edit:** (PPM) Process that screens data quality, Meter status and motion detection data in order to determine a Panelist’s In-Tab status for a given media day.

**Quarter-Hour, Diary:** The basic unit, or smallest time period, for which listening is credited. Generally, stations receive credit for a quarter-hour of listening if the Diarykeeper reported five or more minutes of continuous listening to the station during a quarter-hour.

**Quarter-Hour, PPM:** The basic unit, or smallest time period, for which exposure is credited to stations. Generally, stations receive credit for a quarter-hour of credit if the Panelist is exposed to the station for five or more minutes during a quarter-hour (note: the minutes of exposure need not be continuous).

**Radio Market Report (RMR)/Arbitron eBook:** Arbitron’s syndicated report that provides audience estimates and other data for specific Markets.

**Rating:** See “Average Quarter-Hour Rating” and “Cume Rating.”

**Ratings Reliability Estimator (RRE):** A Web-based application that licensed users of Arbitron data can use to determine standard error estimates and confidence intervals for station Cume and AQH estimates reported in Arbitron’s local and national syndicated services.

**Respondents:** Sampled persons who provide information in response to survey questions.

**Response Rate:** (Diary) The ratio of In-Tab Diaries to the Estimated Persons in Usable Households, generally expressed as a percentage.

**Sample Frame:** The universe from which sample is selected.

**Sample Performance Indicator (SPI):** (PPM) 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 Target:** The In-Tab sample size objective for a particular survey area.

**Sampling Unit:** A geographic area consisting of a county, or county equivalent, for which sample is separately selected and monitored.

**Second Chance Diary:** A sampling methodology in which households that did not return any Diaries to Arbitron are re-contacted and asked to participate in the survey a second time.

**Second Chance Diary Household:** A household that has been sampled via second chance Diary procedures.

**Share:** (See “Average Quarter-Hour Share.”)

**Split County:** A portion of a county, consisting of one or more zip codes, that is recognized as a separate sampling unit for purposes of survey area definition or more discrete sample control.

**Station Information Form (SIF):** A computer-generated form used to capture radio station information. The information collected via the Station Information Form is used to credit Diary entries and serves as a basis for computing and reporting audience estimates in the Diary and PPM services.

**Station Information Packet (SIP):** The package mailed to radio stations prior to the start of a survey containing a letter of introduction, the Station Information Form (SIF), directions on how to complete the SIF, and other information relevant to the survey for which station information is being collected.

**Station Name:** A station’s most frequently used on-air identifier other than call letters or lone exact frequencies.

**Technical Difficulty (TD):** Time period(s) of five or more consecutive minutes during a quarter-hour during the survey period for which a station listed in an Arbitron *Radio Market Report*/Arbitron eBook notified Arbitron in writing of: reduced power; intermittent power; signal interference; or times the station was off the air during the station’s authorized broadcast day.

**Telephone Consumer Protection Act (TCPA):** A federal law that prohibits research companies from using auto dialers to contact persons on their cellular phones.

**Time Period:** (See “Daypart.”)

**Time-Shifted Media Exposure:** (PPM) Exposure to encoded media at a time other than the original broadcast time.

**Time Spent Listening (TSL) PPM:** An estimate of the average amount of time the average Panelist was exposed to an encoded station (or all encoded media) during a particular daypart.

**Time Spent Listening (TSL) Diary:** An estimate of the average amount of time the average listener reported listening to a station (or total radio) during a particular daypart.

**Total Line Reporting (TLR):** 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).

## Glossary of Selected Terms

**Unencoded Interval:** A period of at least five minutes within a quarter-hour during which the station was on-air but not encoded that has been confirmed as having occurred by the station.

**Unidentified Listening:** (Diary) Listening that is included in Persons Using Radio that could not be credited to a specific station.

**Universe Estimate (or Population):** The estimated total number of persons in a particular sex/age group and geographic area.

**Unlisted Sample:** Sample telephone numbers for which names and mailable addresses are not published in telephone directories and may or may not be known prior to placement calling.

**Unusable Diaries:** Diaries returned to Arbitron but that are not used in the production of audience estimates. Generally, unusable Diaries do not pass established quality criteria.

**Unusable Exposures:** (PPM) Media exposures determined by Arbitron to be unusable according to established quality criteria.

**Unusable Sample, Diary:** Telephone numbers in the originally selected sample determined by Arbitron to be ineligible for survey participation for reason(s) that include telephone numbers that are: disconnected; nonresidential listings; assigned to households of 10 or more persons aged 12 and older; or that belong to those who volunteer that they reside in group quarters. Sample will also be unusable if Arbitron determines that the household is media affiliated in accordance with Arbitron's definition.

**Unusable Sample, PPM:** Telephone numbers in the originally selected sample that are not eligible for selection due to the fact that the numbers are disconnected; nonresidential listings; assigned to households of 10 or more unrelated persons; assigned to households of more than 16 related persons; or that belong to those who volunteer that they reside in group quarters. Sample will also be unusable if Arbitron determines that the household is media affiliated in accordance with Arbitron guidelines.

**Weekly Weight:** (PPM) Numeric value assigned to an In-Tab Panelist for the

given week for the purpose of projecting and estimating audience estimates to the population. The weekly weight reflects the number of persons in the Panelist's geographic, sex, and age group, and (if applicable) other groups including dominant language (Spanish/English in Metros where Spanish-dominant language usage universe estimates are available), employment status, the presence of children in the household and telephone service status.

### Frequently Used Abbreviations

AAAA	American Association of Advertising Agencies
AQH	Average Quarter-Hour
ARAC	Arbitron Radio Advisory Council
COO	Country of Origin
CRMR	Condensed Radio Market Report
CSB	Client Service Bulletin
DOM	Description of Methodology
DST	Differential Survey Treatment
EDSR	Electronic Diary Storage and Retrieval
ESB	Effective Sample Base
HDBA	High-Density Black Area
HDHA	High-Density Hispanic Area
MRC	Media Rating Council
MRS	Minimum Reporting Standards
MSA	Metropolitan Statistical Area
NAB	National Association of Broadcasters
NECMA	New England County Metropolitan Area
OMB	Office of Management and Budget
PMSA	Primary Metropolitan Statistical Area
PPDV	Persons-Per-Diary Value
PPM	Portable People Meter
PUMM	Persons Using Measured Media
PUR	Persons Using Radio
RAB	Radio Advertising Bureau

RDD	Random-Digit Dialing
RMR	Radio Market Report
RRE	Ratings Reliability Estimator
SIP	Station Information Packet
SRMR	Standard Radio Market Report
SSA	Special Station Activities
TD	Technical Difficulty
TLR	Total Line Reporting
TSA	Total Survey Area
TSL	Time Spent Listening
UI	Unencoded Interval

### Sourcing

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