



Local Syndicated Services

Description of Methodology

Diary and PPM Radio Market
Reports/Arbitron eBooks

Winter 2010
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The Local Syndicated Services Description of Methodology

Arbitron Radio Market Reports/Arbitron eBooks

An Arbitron *Radio Market Report*/Arbitron eBookSM 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 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:

- Houston-Galveston (accredited January 2007).
- Riverside-San Bernardino (accredited January 2009).
- Minneapolis-St. Paul (accredited January 2010).

Arbitron is not actively seeking, nor is planning to seek, 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

The Market

Each Arbitron *Radio Market Report*/Arbitron eBook includes audience estimates for a predefined geographic area; this area is generally referred to as “the Market.” This chapter will provide a broad overview of the major policies and guidelines related to policies for defining Arbitron Metro, Total, and Custom Survey Areas. The descriptions included herein are for general information purposes only, and do not constitute the full body of Arbitron policy.

Market Name

A Market name as used by Arbitron is descriptive of the area surveyed. Market names generally include the name(s) of one to three cities in the survey area, and are listed in sequential order from largest to smallest estimated population. Arbitron may elect to adopt an alternative name that better reflects Market preference. For the purpose of differentiation, the names of Markets with similar names or the name of a condensed Market may include a two-letter state abbreviation (e.g., Springfield, MA, and Springfield, MO). In instances where a Market definition crosses state lines, the states' abbreviations appear in the order to which the cities are referred (e.g., Parkersburg-Marietta, WV-OH).

Sampling Units

An Arbitron survey area is composed of sampling units called whole counties or split counties. A whole county is a single Arbitron sampling unit that exactly corresponds to a county or county equivalent (for example, an independent city, borough, parish, or municipio). A split county is an Arbitron sampling unit that corresponds to a part of a county or county equivalent. In some cases, splitting a county may give Arbitron the flexibility to better manage sample or account for survey response patterns. In other cases, it is logical to split a county due to the county's geographic characteristics, the coverage area of radio stations home to the county's Metro, or to radio listening patterns.

Market Definitions

Arbitron may produce audience estimates for up to four different survey

areas, including the Metro Survey Area (Metro), Total Survey Area (TSA), Custom Survey Area (CSA), or Designated Market Area (DMA)¹. The survey area for which audience estimates are available may differ from one Market to another, and reflect the limitations of the Market's measurement instrument.

The Metro

The Metro Survey Area (e.g., “Metro”) is the primary area for which local radio audience estimates are reported. Counties included in an Arbitron Metro may correspond to those in the Office of Management and Budget's (OMB) Metropolitan Statistical Area (MSA) definition. Arbitron's conformity with or deviation from OMB's MSA definition is noted on the “Special Notices” page of each Arbitron eBook/*Radio Market Report*, as applicable. (Metropolitan Statistical Area definitions are modified periodically by the OMB. Additional information concerning Metropolitan Areas may be obtained from the OMB.) Metro audience estimates reflect information from In-Tab Diaries or In-Tab Meters, as applicable.

The Total Survey Area

The Total Survey Area (e.g. “TSA”) of an Arbitron radio Market is a geographic area that includes all of the Market's Metro counties and any additional counties in proximity to the Metro that are also served by Metro stations. As TSA counties will not be measured via Meters, audience estimates for the TSA reflect information from In-Tab Diaries only.

The CSA

A Custom Survey Area (e.g., “CSA”) is a customized area for which a report is produced; the CSA is composed of an area that is specified by the party commissioning the report. The term CSA may also be used to refer to certain customized Marketing areas that are comprised of all counties within a state or across multiple states. Depending upon the report specifications, CSA audience estimates may reflect information from

In-Tab Diaries, In-Tab Meters, or a combination of the two.

The DMA

The Designated Market Area (e.g., “DMA”) is a geographic design used by Nielsen Media Research, Inc. for the measurement of television audiences. Policies related to the definition and modification of a DMA lie solely with Nielsen Media Research, Inc. Arbitron provides DMA-level audience estimates for a select group of Markets; depending upon the Market, DMA audience estimates may reflect information from In-Tab Diaries, In-Tab Meters, or a combination of the two.

Embedded Metros

An *embedded Metro* is a unique marketing area for the buying and selling of radio that is either wholly or partially contained within a larger Metro. Embedded Metros may consist of either a single sampling unit or a group of sampling units, and are named according to the market-naming guidelines described above. The key characteristic that distinguishes an embedded Metro from the rest of the Metro is the application of a sample-balancing model to the embedded Metro that is separate from the model that is applied to the non-embedded Metro counties.

PPM Commercialization Schedule

49 U.S. Radio Metros

Prior to this writing, Arbitron announced a timetable for the commercialization of PPM in 49 U.S. radio Metros. A Market's conversion date as included in this schedule should be considered tentative; the actual date of a Metro's conversion from Diary to PPM measurement may differ from that published. Additionally, Arbitron may elect to convert additional Metros not included on the schedule to PPM measurement at any time. Arbitron expects that the conversion of these 49 Metros from Diary-measurement to PPM-measurement to be complete by December 2010.

¹DMA[®] is a registered service mark of Nielsen Media Research, Inc., and is used pursuant to a license from Nielsen Media Research, Inc.

The Market

Embedded Metros, Ranked in the Top 50 U.S. Markets

Embedded Metros that are independently ranked within the top 50 U.S. Metros that are embedded within a PPM Metro will convert from Diary-measurement to PPM-measurement at the same time as the larger Metro.

Embedded Metros, Not Ranked in the Top 50 U.S. Markets

Embedded Metros that are not independently ranked within the Top 50 U.S. Metros that are embedded within a PPM Metro will not convert to PPM measurement (i.e., the embedded Metro will continue to be measured via Diaries).

Market Redefinition

Arbitron may elect to add sampling units to (or in rare instances remove sampling units from) an Arbitron survey area.

This decision is based upon a detailed and careful analysis of data from a wide range of sources, and takes into account the sampling unit's location and proximity to the survey area, radio listening patterns of the sampling unit's population, and the commuting patterns of the sampling unit's population.

Redefinition of Diary-Measured Metros

Generally, a sampling unit will be added to the Metro's definition if each of the following is true: 1) the sampling unit is contiguous to a Metro County, 2) at least 55 percent of all unweighted quarter-hours of radio listening reported by Persons 12+ in the Monday-Sunday, 6AM to Midnight daypart over the previous Spring and Fall surveys was credited to radio stations home to the Metro, and 3) 15 percent of commuting from the county is into the existing Metro (according to the most recent census). Additional criterion may also apply, particularly when considering the disposition of counties in adjacent Metros. (Note: an alternate set of criteria may apply in rare circumstances where the area being evaluated for re-definition includes a 'dual city', e.g., cities that are within a Metro and adjacent to a non-Metro area. These criteria will be reviewed on an as-needed basis with parties to whom they apply.)

Market Redefinition Schedule

Arbitron reevaluates the composition of every Market following the release of each decennial U.S. Census and may elect to perform interim analyses as often as once per year at the request of a radio station that is directly licensed to use the *Radio Market Report*/Arbitron eBook. Metro re-definition analysis results are available to stations without cost or obligation.

Implementation of Market Redefinition

Radio stations that wish Arbitron to implement the Market definition changes recommended in the re-definition analyses must formally notify Arbitron of this wish via submission of the "Request Form for Formal Metro Redefinition Evaluation." Upon receipt of this form undersigned by at least 75 percent of all stations that are home to the Metro that are licensed to use Arbitron data, Arbitron will implement the revised Market definition for the next Spring or Fall survey, whichever comes first. For the purpose of Metro redefinition, owners of multiple stations in a Market count once toward the 75 percent threshold.

Submission of the Metro redefinition request form binds the requesting parties to all the requirements and outcomes of Arbitron's re-definition analysis; stations are further cautioned to bear in mind that stations formally requesting the re-definition will incur charges for any additional sample required to measure the redefined Market.

Redefinition of Metros Scheduled for Conversion From Diary Measurement to Electronic Measurement

A Metro scheduled to convert from Diary to PPM measurement may not be considered for redefinition within the 12 calendar months prior to the month of release of the Metro's last Diary-based currency *Radio Market Report*/Arbitron eBook. Stations home to Metros scheduled for conversion to PPM measurement should, therefore, carefully consider the timing of requests for Metro reevaluation.

Redefinition of PPM-Measured Metros

Upon commercialization of PPM in a Metro, the Metro definition that was applicable to the last currency Diary-

based *Radio Market Report* will also be applicable in the currency PPM service.

In the future, Arbitron will honor requests for a PPM Metro redefinition analysis. However, to ensure a smooth transition from Diary measurement to PPM measurement for all licensed users of Arbitron data, requests for PPM Metro redefinition will not be accepted until January 2011, or until after the release of the Metro's thirty-sixth (36th) monthly currency PPM report, whichever comes first.

TSA Redefinition

Arbitron TSA definitions may also be redefined. The analyses used during TSA redefinition are structured, highly detailed, and take into account the returned In-Tab levels and In-Tab mentions to Metro stations. In the past, Arbitron has engaged TSA redefinition analyses biennially, based upon data included in the most recent Arbitron *Radio County Coverage* report (excluding additional sample purchased specifically for inclusion in a CSAR). At the time of this writing, TSA redefinition analyses for calendar year 2009 have been suspended. Should, at some future time, Arbitron elect to resume TSA redefinition analyses, information regarding the redefinition analysis will be included in the applicable edition(s) of the *Local Syndicated Services Description of Methodology*.

Measurement of PPM Metro/Diary TSA Counties

Counties that are home to a PPM Metro that are also part of a non-Metro Diary Market TSA will be measured solely as a part of Arbitron's PPM service; upon conversion of the Metro from Diary to PPM, Arbitron will no longer measure the county with Diaries, and that county will be removed from the Diary Market's TSA.

Reservation of Rights

All determinations regarding Arbitron Metro, TSA, and Custom Survey Areas definitions remain solely and unilaterally with Arbitron. Similarly, Arbitron reserves the right to modify, waive, or amend any of its Market definition policies as, in Arbitron's judgment, business conditions warrant.

Sampling and Recruitment

This chapter will provide an overview of sampling procedures for Arbitron's Diary surveys and PPM Panels. The descriptions contained in this chapter are for general information purposes only, and do not constitute the full body of Arbitron's knowledge, policy, or procedure. Arbitron reserves the right to modify or suspend any of the policies or procedures described in this chapter, and implement new policy, at any time, as business or research conditions warrant, in Arbitron's judgment.

Survey Sample Universe

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

Survey Sample Frame

The sample frame for Arbitron's Diary surveys includes households that have landline telephone service and households with cellular telephone service that do not also have landline telephone service (e.g., 'cell phone only').

The Diary survey's landline telephone 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. Known nonresidential telephone numbers are excluded from the frame. (Note: in the Puerto Rico service, the sample frame is based on working telephone exchanges rather than hundred blocks.)

For Metros where the estimated college and/or military group quarters population is a minimum of two percent of Persons 12+ or 50,000 Persons 12+ (according to the most recent information available), additional telephone hundred blocks may be added to the frame. Hundred blocks eligible to be added are those that are known to serve residential housing for the college and/or military population.

The Diary survey cell-phone-only sample frame is a list of addresses. A short questionnaire is mailed to all addresses on this list that do not have a corresponding landline telephone number. Households that return the questionnaire and confirm cell-phone-only status are eligible for selection.

Once a household is selected for placement, standard interviewing procedures (as described below) are used with the exceptions that cell-phone-only households may be eligible to receive treatments and incentives in amounts beyond those offered to landline households, and that, in accordance with the Telephone Consumer Protection Act, calls placed to cellular phone numbers are hand-dialed.

Survey Sample Targets

Arbitron develops Persons 12+ Diary In-Tab targets for the Metro, Non-Metro TSA, and DMA. The Metro sample target is reported in each *Radio Market Report*/Arbitron eBook, along with the number of In-Tab Diaries for that survey and Market. The number of In-Tab Diaries may be more or less than the sample target due to the effects of respondent cooperation, Diary return, Diary usability, interviewer performance, and nonsurvey-related conditions (such as power outages, natural disasters, or political events) in the Market during the sample placement and survey periods.

Metro Targets

The Metro targets are root functions of the Persons 12+ population estimates, subject to certain minimums. The formulas for Standard and Condensed reports are as follows:

Condensed Market Report

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

Results rounded to next 10 No Maximum; Minimum = 500

Standard Market Report

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

Results rounded to next 10 No Maximum; Minimum = 610

Non-Metro TSA Targets

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 Arbitron's. 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.

For example, a Market could have a Metro target of 1,000 and a TSA ESB goal of 1,200 (1,000 plus constant of 200). In this example, the Metro accounts for 83 percent of the TSA ESB goal (1,000/1,200), but may account for only 60 percent of the total TSA population. The Metro would, therefore, be "oversampled" relative to the Non-Metro portion of the TSA. Since the Metro is oversampled, more than 200 Diaries are needed from outside the Metro in order to achieve a total TSA ESB of 1,200, as illustrated below:

$$\frac{1}{1,200} = \frac{(.60)^2}{1,000} + \frac{(.40)^2}{\text{N-M TSA Target}}$$

$$338 = \text{N-M TSA Target}$$

DMA Targets

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 equal to the largest of the corresponding Metro targets.

Survey Target Allocation

For each Market segment, the target allocation is based on each sampling unit's proportion of the total P12+ Market segment population. More than one target may be generated for a given sampling unit if the sampling unit can be included in two segments of the same Market (Non-Metro TSA and DMA);

Sampling and Recruitment

and/or in multiple Markets (Metro to one Market/TSA to another) or if it has met minimum sample requirements for the Radio *County Coverage*™ Report. In all cases, the highest target is used for sampling purposes.

Arbitron allocates a portion of each Metro's sample for cell-phone-only households. However, as the most recent data available indicate that the proportion of cell-phone-only households varies greatly from Metro to Metro, Arbitron expects the proportion of Metro In-Tab that is cell phone only to vary accordingly.

Survey Sample Selection

Arbitron sorts the sample frame by telephone number within each zip code within the sampling unit. Then, for each sampling unit, the number of telephone numbers in the frame is divided by the number of telephone numbers to be ordered, to produce an interval ("n"). From a random start point, every "nth" telephone number is selected until the file for each sampling unit receives one complete pass.

After selection of the sample order from the frame, address information is appended to the corresponding telephone number (as available). Telephone numbers for which names and mailable addresses are published in telephone directories are categorized, treated and reported as listed sample; telephone numbers for which addresses are not published in telephone directories are categorized, treated and reported as unlisted sample. (Note: in Arbitron's Puerto Rico Diary service, telephone numbers are not address-matched.)

From the quarterly sample order, sample is selected for calling for each week of the survey, using predicted sample performance rates and the same systematic interval random selection technique described above. The predicted rates are initially based on historical rates for each phase and sampling unit. However, adjustments may be applied when the historical statistics appear to have been an aberration, or when indicated by current Market conditions, recent changes in methodology or other known factors.

Survey Sample Monitoring

Arbitron's Sample Management System continually monitors the total number of Diaries mailed to consenting households against the total number that must be placed in order to achieve target (assuming a certain return rate). If the system determines that the number of Diaries placed, plus the number of Diaries predicted to be placed, will be insufficient to meet the In-Tab target, additional sample may be selected. Similarly, if the system determines that too many Diaries are being placed, it may reduce the amount of sample for upcoming week(s). Arbitron may also make adjustments to account for overages or shortfalls in Diary return rates (subject to the limitations of Arbitron's data processing schedule).

Differential Survey Treatment (DST)

Arbitron has implemented special procedures called Differential Survey Treatments (DSTs) to maximize participation by demographic groups that have a historical pattern of being under-represented in surveys. In general, DST may consist of higher cash premiums, additional communications, and other techniques designed to encourage respondent participation.

In all Metros, households that indicate the presence of a Male 18-24 or 25-34 may receive increased premiums, additional follow-up calls, and customized recruitment materials. In certain Markets, households containing a person in one (or more) of these Demos may also be eligible to receive an additional premium for each Diary returned.

In Metros qualifying for Black DST, households in which the respondent indicated that a person of Black race resides may receive increased premiums and additional follow-up calls. For a Metro to qualify for Black DST, the Metro Persons 12+ population must be either a) at least 10% Black, or b) number at least 75,000 persons and be between 5% and 9% Black.

In Metros qualifying for Hispanic DST, households in which the respondent indicated that a person of Hispanic race

resides may receive increased premiums and additional follow-up calls. For a Metro to qualify for Hispanic DST, the Metro Persons 12+ population must be either: a) 10% Hispanic, or b) number at least 75,000 persons and be between 5% and 9% Hispanic.

High-Density Areas (HDAs)

A High-Density Area is 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.

To qualify as a High-Density Black Area (HDBA), the population of one or more of the zip codes must be at least 35 percent Black, and the sampling unit must have an In-Tab target of at least 21 Diaries.

To qualify as a High-Density Hispanic Area (HDHA), the population of one or more of the zip codes must be at least 40 percent Hispanic, and the sampling unit must have an In-Tab target of at least 21 Diaries.

Once established, an HDBA or HDHA is retained until the In-Tab target for the sampling unit is less than 18 Diaries.

In Markets 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 cases, the zip code is assigned to the HDA that corresponds to the absolute higher of the two (Black or Hispanic) population percentages.

There may be instances where more discrete sampling unit definitions are used to expand or subdivide HDA definitions. Typically, these sampling units are identified as HDA2s. Criteria for establishing an HDA2 vary based on individual Metro considerations.

Diary Placement Procedures

Arbitron's Diary placement procedures consist of a complex set of scheduled communications and incentives that are intended to stimulate interest in the survey and to encourage full survey participation by all individuals in the selected household. All printed materials

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and spoken communications are available in both English- and Spanish-language versions.

Sampled households are called by interviewers in Arbitron's centralized interviewing facilities and/or by vendors. Calls are managed by a computer-assisted telephone interviewing system and Arbitron-maintained software. Interviewers are provided with standardized scripts that are appropriate to the category of the sample being called. (Interviewer consent and response rates are carefully monitored. Interviewers with high performance are rewarded through a multilevel incentive program. Interviewers with low performance are removed from calling and additional training is provided. If performance does not improve, the interviewer is not retained.)

Arbitron's first contact with a listed household or an unlisted household for which Arbitron has been able to secure an address is a letter with a premium enclosed. This letter informs the household of its selection for participation in the survey, and alerts the household that a telephone interviewer will call soon with more information.

If the telephone number of the sampled household is unlisted and not able to be matched to an address, Arbitron's first contact with the household is the placement call. (Address matching is not used in the Puerto Rico Market; as such, initial contact with sampled households in Puerto Rico is by telephone.)

The purpose of the placement call is to determine the eligibility of the sampled household, gain consent to mail Diaries to the household, and collect information about the household to target special survey procedures. Interviewers can make multiple attempts to reach sampled households during the placement period for each survey week. To increase the likelihood of making contact, calls are made at different hours throughout the day and evening and on different days of the week. Interviewers are instructed to leave scripted messages on answering machines for specified calling attempts.

For all sampled households, the interviewer asks the respondent how many Persons 12 years of age and older

reside in the household. Households with more than nine Persons aged 12 and older are ineligible for survey participation.

The interviewer asks for the respondent's name and household address. If the respondent indicates living in either a dormitory or military barracks, the interviewer probes for the presence of a private phone in the dwelling unit. If the phone in the dwelling unit is determined to serve nine or fewer individuals, the dwelling unit is accepted as a household equivalent and is deemed eligible for participation in the survey.

The interviewer also asks if anyone in the household is employed by a radio or television station, a radio or television network, or a cable television system or network. An affirmative answer to this question disqualifies the household from participation in the survey.

For all households that consent to participate in the survey, the interviewer asks a question about the race and/or ethnicity of the household; age and race information is collected for each person in the household aged 12 and over. If respondents do not provide the age and sex for each person in the household, then the interviewer asks about the presence of a male aged 18-24 and/or aged 25-34. These age and sex data may be used to implement the applicable differential survey treatment.

A letter is sent the day after the placement call to selected consenting households to reinforce the household's commitment to participate in the survey. The letter may include an additional premium; the amount of this premium may vary by Market and/or demo.

Based upon information collected by the interviewer, a Diary and a token premium are sent for each person aged 12 and older in the household. The Diaries and premiums for all persons in the same household are packaged together and sent in a special box mailer. The Diary package includes a personally addressed cover letter and an illustrated color brochure that emphasizes the importance of the ratings survey and provides answers to commonly asked questions.

After the Diaries are mailed, consenting households are re-contacted to verify that the Diaries were received, to remind respondents of the importance of their Diaries, and to answer any questions about how to record listening in the Diaries. The call is also used to remind Diarykeepers to answer the questions near the back of their Diaries, to return their Diaries after the survey week, and to thank them for their participation.

On the first day of the survey, a follow-up letter is mailed to each consenting household. This letter thanks the household for agreeing to participate, encourages the return of all Diaries, and may include an additional premium.

Respondents are provided access to a "Diarykeeper Hotline" and Web site should the respondent have any questions about Arbitron or the survey.

In select Metros, a note card containing an additional premium is mailed to households with known addresses that refused to participate in the survey during the first three days of calling. The note is mailed the day after the household refused, and it stresses the importance of the survey and encourages cooperation when Arbitron's interviewer calls again.

"Second Chance Diary"

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 first sampled to determine if the household's eligibility to participate in the survey has changed, to 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.

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After the box containing the second chance Diaries and premiums is mailed, consenting households are re-contacted to verify that the Diaries were received, to remind respondents of their importance, to answer any questions about how to record listening in the Diaries, and to inform the household that it is eligible to receive an additional premium for each Diary returned.

On the first day of the second chance survey week, a follow-up letter is mailed to each consenting household. This letter thanks the household for agreeing to participate, encourages the return of all Diaries, and includes an additional cash premium for the household.

Due to operational considerations, the survey week for second chance households is generally six weeks after the week the household was originally scheduled to take part in the survey.

The Sample in Diary-Based Custom Survey Area Reports

A "CSAR" (e.g., Custom Survey Area Report) is a report that is produced for a customized survey area based upon the specifications articulated by the subscriber(s). Each CSAR may include information contained in Diaries or Meters placed for use in a Market's *Radio Market Report*/Arbitron eBook, Diaries placed specifically for use in the CSAR, or a combination of the two.

For most CSARs, Arbitron offers a choice of sample targets. When selecting the appropriate target, the subscriber(s) should take into account that a specific number of demographic groups and dayparts are reported for each sample target level, and that higher sample targets will allow for the reporting of audience estimates in a greater number of possible demographic cells. Since a CSAR may have only one sample target for a survey period, subscribers should reach a consensus on the desired target.

Sample targets are allocated 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. Because a survey area included in a custom survey area may also be part of a standard area, the

sampling unit may have more than one sample target for a survey period. In this case, the highest target is used for sampling purposes. Therefore, the number of In-Tab Diaries returned from the sampling unit may be higher than the sampling unit's allocated sample target for the CSA. In cases where the sampling unit receives its highest sample target from the CSA, additional sample may be ordered to meet that target. Any additional sample is ordered using the same method that is used for the *Radio Market Report*/Arbitron eBook sample.

Additional sample ordered specifically for a CSAR is not included in the *Radio Market Report*/Arbitron eBook. Arbitron designates this CSAR-only sample by appending the word "Special" to the county name (i.e., "Floyd County Special, Georgia"). Generally, extra CSAR-only sample is not ordered for Metro counties.

CSARs that require additional sample are subject to the same Differential Survey Treatments (DSTs) used for *Radio Market Reports*/Arbitron eBooks. If a CSAR is based solely upon sample used for the *Radio Market Report*/Arbitron eBook, DST is not applied to any non-Metro CSAR counties.

CSARs that are formed by combining all counties in a state or multiple Metros and/or areas (regional) are considered for DST qualification as a whole. Individual radio Metros included in a state or regional CSAR receive a DST based upon the qualifications described elsewhere in this document.

The PPM Panel

Arbitron's PPM methodology reflects a Panel design; Arbitron repeatedly measures the exposure to encoded radio stations of the same sample at different points in time. Individual persons participating in the Panel are referred to as "Panelists."

While the information included in the *Radio Market Report*/Arbitron eBook is based solely upon data collected by Panelists recruited specifically for this purpose, information collected from these Panelists may be used for other purposes. Additionally, Arbitron may build Panels for other purposes.

PPM Panel Sample Universe

The sample universe for a Metro's Panel consists of Persons 6 years of age and older residing in the Metro Survey Area.

PPM Panel Sample Frame

The sample frame for an Arbitron Panel includes households with landline telephone service and households with cellular phone service that do not also have landline telephone service. Procedures for defining the Panel's landline telephone frame and address-based cellular phone telephone frame are the same as described above for Arbitron's Diary surveys.

Telephone-Based CPO Sample Frame

To complement the address-based cell-phone-only sample frame, Arbitron also samples cell-phone-only households in PPM Metros via a cellular telephone number based methodology. The sample frame for this subset of cell phone households is constructed from telephone exchanges that are dedicated to cellular service. The numbers within these dedicated cell exchanges are first sorted by county, then by cellular service carrier name and then by cellular phone number hundred blocks. Systematic sampling is used to select cellular numbers for calling. Cell phone numbers that have been ported to landline service or landline phone numbers that have been ported to cell phone service are excluded from the frame.

During cell-phone-only household sample screening, should the respondent provide a zip code that is outside of the Market for which the household was selected, the zip code will be analyzed to determine if it is contained within any PPM Market. If so, that telephone number is transferred to the cellular telephone frame for the Market that contains the zip code. If the zip code offered by the respondent is not included in any PPM Market, the phone number will be included in the sample for the Market in which it was originally selected (the household is assigned the most populous zip code in the Metro that it was ordered for). The household will only be eligible for recruitment, however, if in subsequent interviews, the household is

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confirmed as being within the Market for which it was sampled.

Landline vs. Cell-Phone-Only Sample Allocation

A percentage of the Metro target is allocated to cell-phone-only sample. Once sample targets are established, landline Metro targets are then allocated to the sampling unit based on their population. Cell phone sample targets are allocated at the Metro level only. The percentage of sample allocated to cell-phone-only households may vary from Metro to Metro. Generally, this percentage is lower than the percentage of cell-phone-only households in the universe; as such, cell-phone-only households 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.

PPM Panel Sample Target

The monthly average daily In-Tab sample target for a PPM Panel is approximately 33 percent of the Metro's quarterly In-Tab Diary Survey target. Arbitron may adjust PPM sample targets as business conditions or research considerations warrant, in Arbitron's judgment.

Determination of Basics and Alternates

PPM sample selection begins with the random designation of screened landline sample as a "Basic" or "Alternate." Arbitron designates cell-phone-only sample as Basic or Alternate randomly at the Metro level. Sample designated as Basic is selected for calling using the random systematic interval selection technique described above.

PPM Panel Differential Survey Treatments

Upon a Market's conversion from Diary measurement to PPM measurement, the Differential Survey Treatments that were

in place for Diary surveys are carried forward into PPM measurement.

PPM DSTs may consist of higher cash premiums, additional communications, a more robust approach to recruitment, and additional procedures intended to encourage respondent participation. If a household falls into more than one DST group (Black and Young Adult 18-24, for example), the household receives the largest premium for which it qualifies.

In Markets qualifying for Black DST, households where the respondent indicated that a person of Black race resides in the household receive higher participation incentives.

In Markets qualifying for Hispanic Spanish-Dominant DST, households where the respondent indicated that a person of Hispanic origin who primarily speaks Spanish resides in the household receive higher participation incentives and compliance bonuses.

In Markets qualifying for 18-24 DSTs, households where the respondent indicated that a person between the ages of 18 and 24 resides in the household receive higher participation incentives and higher compliance bonuses.

High-Density Areas in PPM-Measured Areas

Upon a Metro's conversion from Diary measurement to PPM measurement, any HDAs that were in the Metro for the Metro's last currency Diary-based *Radio Market Report*/Arbitron eBook are carried forward, based on the aforementioned guidelines.

Basic Sample Recruitment

Recruitment is a multistep process that employs multiple modes of contact and incentives to optimize cooperation. For each stage of calling described below, Arbitron makes *multiple* attempts to contact the household.

Arbitron's first contact with a listed sample household, or with an unlisted sample household for which Arbitron has been able to secure a name and address, is a package containing a letter, a brochure and a small incentive. The

letter informs the household that a telephone interviewer will be calling within the next couple of days with more information. If the telephone number of the sample household is unlisted and Arbitron has been unable to secure an address for the household, the first contact with the household will be the sample preparation phone call.

Next, the sampled household is called to determine the eligibility of the household to participate in the Panel, to collect general information about the household, and to secure a mailing address for the home. The information collected during this call includes information regarding the presence of a Person 18-24, 25-34, or 35-44 in the household, the race/ethnicity of the householder, and the dominant language of the householder (if Hispanic).

The interviewer also asks if anyone in the household is employed by a radio or television station, a radio or television network, or a cable television system or network. An affirmative answer to this question disqualifies the household from participation in the Panel.

Arbitron mails a letter, a token gift and a brochure describing Panel participation to households that refuse to complete the initial call. Shortly after receipt of this mailing, Arbitron attempts to contact the household again to recruit the household.

The final stage of the recruitment process is the recruitment call. During this call, a strong commitment on behalf of all household members to wear their Meters is secured. Additional information about the household is collected, including the number of full-time residents in the household and the household income level. Additional information is also collected for the individuals in the household, including age, gender, birth month, race/ethnicity, dominant language, country of origin (as applicable), and employment status. During this call, the interviewer also engages in a discussion about the ease of use of the Panel equipment and arranges for delivery of the equipment.

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Selection and Recruitment of Alternate Sample

Should a Basic household refuse to participate in the Panel (or leave the Panel), an Alternate household may be recruited to take its place. For each Alternate household recruited, there must be a corresponding refusing Basic household. This correspondence is managed at the Metro level separately for landline and cell-phone-only sample.

Alternate sample is selected for interviewing as described above with the exception that fewer attempts are made during Sample Preparation calling. Alternate households must complete the sample preparation interview to become eligible to be selected for recruitment. Alternate households that are not recruited within 180 days of completion of the sample preparation call are expired (i.e., an end date is established for the Alternate's record in Arbitron's databases). Upon expiration, Arbitron will not attempt to recruit the Alternate.

Alternate landline sample is organized into strata, as defined by the cross-tabulation of the demographic characteristics gathered at sample preparation. For Markets where primary language usage is not a weighting variable, primary language is not used in the construction of the strata. These strata reflect both the population proportions of each sampling unit and the demographics gathered during sample preparation. Alternate cell-phone-only sample is combined into one stratum and randomly selected without regard to demographic characteristics.

When an Alternate landline household is selected for recruitment, it will be randomly selected from within its stratum. A household will belong to only one stratum. Sampling rates will vary from one stratum to another. Alternate sample will be selected for recruitment if one or more of these demographics falls, or is projected to fall, outside of the applicable goal range. Selection of sample will not take place if doing so would likely cause another demographic to leave its goal range or if doing so would result in recruiting an Alternate for which there is not a corresponding refusing Basic.

PPM Promised Incentive

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. This mailing may contain a monetary premium. 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.

Recontact of Refusing Basic Households

Refusing Basic households are periodically recontacted to encourage the household to participate in the Panel. If the refusing Basic household joins the Panel, an Alternate household may need to be excluded from the Panel.

Household Members Ineligible to Participate in the Panel

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.

The Collection and Ascription of Demographic Information

As described in the "Sample Weighting" chapter of this *Local Syndicated Services Description of Methodology*, Arbitron weights the PPM In-Tab sample to the sample universe based upon a key set of demographic variables. To be eligible for inclusion in the In-Tab sample, all households/Panelists must provide this information to Arbitron.

In addition to demographic information that is used for sample weighting

purposes, 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 sampled and recruited without having provided the full complement of this non-essential demographic information.

To account for such rare occasions of missing data, Arbitron may ascribe values for missing household income, personal education, and personal birth-month to Households/Panelists as necessary. As these variables are not used for weighting purposes, the audience estimates contained in a *Radio Market Report*/Arbitron eBook are not affected, in any way, by the ascription of values for such missing information. (Users of the data should be mindful that estimates that use one of these characteristics as a weighting variable may be available in select Arbitron services and/or reports; ascription rates will be disclosed, as applicable, in the report that uses the data.)

Panel Sample Monitoring

Arbitron's sampling system continually monitors Meter installation against the total number of Meters that must be installed to achieve target. If the system determines that the number of Meters actually installed plus the number of Meters predicted to be placed will be insufficient to meet the In-Tab target, then additional sample may be selected. Similarly, if the system determines that too many Meters are being placed, it may reduce the amount of sample to be selected for upcoming week(s).

Throughout the sampling process, the demographic characteristics of telephone-frame Panels are closely monitored. Each of these demographics will have a goal range to which sample will be managed. Goal ranges will vary by Market and demographic and will be guided by the portion of the Market population that they constitute. In general, therefore, a demographic that is a larger portion of a Market will have a narrower goal range than will a demographic that constitutes a smaller portion of the Market. Arbitron may alter these ranges when indicated by current

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Market conditions, recent changes in methodology, or other factors.

Turnover

As a matter of policy, the maximum amount of time that a household may be in the Panel is two years from the date of the household's sample prep call. Arbitron's experience, however, is that most households either voluntarily leave the Panel, or are removed from the Panel by Arbitron, before the term of eligibility expires. Examples of reasons that Arbitron may remove a household from the Panel include when the household moves out of the Metro, when changes in the household make it no longer eligible to participate, or when the household is chronically non-compliant with Arbitron's instructions. It is also Arbitron's experience, however, that the number of households that leave the Panel during a given report period is generally offset by the number of new households that enter the Panel during the report period. As such, the number of households in the Panel generally remains stable over time.

Households included in a Market's initial Panel entered the Panel roughly around the same point in time; these households are gradually removed from the Panel over an 18- to 21-month period. As such, some of these households may be removed from the Panel in as few as 18 months, while other households may remain in the Panel for up to 39 months.

Sampling Procedures for the Houston-Galveston Panel

The sampling procedures used for the Houston-Galveston Panel differ from the procedures used in all other PPM Markets (these differences are a function of Houston-Galveston's status as the first PPM demonstration Market). Sampling policies and procedures unique to Houston-Galveston are described below.

Sample Target

The installed sample target for the Houston-Galveston Panel is 2,000 Persons aged six and older residing in the Houston-Galveston DMA. Approximately 95 percent of the total Houston-Galveston sample falls within

the counties that comprised the Houston-Galveston Metro definition as applicable in the Metro's final Diary-based report.

Sample Frame

The Houston-Galveston sample frame is an address list that includes nearly all residential households in the DMA. This list is built using postal addresses and is updated bimonthly to account for changes to postal geographies. Based on census blocks, the addresses are stratified by county, race, ethnicity, median age of householder and householder's employment status.

High-Density Areas

High-Density Areas in the Houston-Galveston Market reflect those that had been established prior to the Market's first currency PPM-based report.

Selection of Basics and Alternates

Addresses within the Houston-Galveston DMA are selected at random from the stratified frame using a systematic random sampling procedure. Following the selection of Basic sampling points, a predetermined number of supplemental addresses are selected within the same zip+4 area as the Basic address. Three of these are designated as reserve Basics to serve as replacements in the event the first Basic proves to be ineligible to join the Panel. The remaining addresses in each sampling point serve as Alternates in the event that an eligible Basic cannot be recruited or retained in the Panel. Alternates are, thus, always within close geographic proximity to the Basic. If the Basic household cannot be recruited or retained in the Panel, it is replaced with an Alternate household.

To be eligible to replace a Basic household, Alternate households must match the Basic on preassigned 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 householder's employment status. Alternate households must match the Basic on two of these criteria, as determined in advance by Arbitron.

Sample Preparation

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

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.

Field Recruitment

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.

Panel Turnover

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

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days; during this transition period, the sampling points are randomly ordered and expired as new sample is installed within that sampling point's county. After 60 days, all remaining sampling points are expired.

Panelist Confidentiality

In all Markets, all Panelists 13 years of age and older receive a "welcome letter" shortly after the household equipment is mailed. The welcome letter thanks the individual Panelist for his/her participation in the Panel and requests that each Panelist keep his or her participation in the Panel confidential. Users of Arbitron data are reminded that any attempt by, or on behalf of, a radio station to learn the identity of a Panelist or Diarykeeper constitutes Rating Distortion. Please see Chapter 11 "Rating Bias and Rating Distortion" for additional information.

Sample Performance Metrics

Sample performance in Arbitron's surveys and Panels may be measured in a variety of metrics; a description of each metric, and the methodology to which it applies, follows.

Consent Rate (Diary Surveys)

A 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 in the survey.

Return Rate (Diary Surveys)

A 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.

Unweighted Response Rate (Diary Surveys)

A 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 (not-known) residing in nonconsenting 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.

Weighted Response Rate (Diary Surveys)

For a survey's weighted response rate, the number of In-Tab Diaries and the estimated number of persons in usable households are both 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.

The Effect of Second Chance Diary Methodology on Response Rate

With the implementation of Arbitron's second chance Diary sampling methodology, some households will be 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. In-Tab Second Chance Diaries will be counted as a part of the Metro sample target; In-Tab Second Chance Diaries are not counted in addition to the sample target.

Sample Performance Indicator (PPM Panels)

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 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 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.

Designated Delivery Index

Designated Delivery Index 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.

Station Encoding

Arbitron's end-to-end PPM measurement system employs an "encode/decode" model; encoded information transmitted by radio stations is decoded by PPMs. As such, to be measured in the PPM-based *Radio Market Report*/Arbitron eBook service as it is currently deployed, a station must install, maintain, and monitor PPM encoding equipment. This chapter will provide a broad overview of Arbitron's encoding technology and the body of policy developed to support it. The information described in this chapter is for general purposes only, and does not constitute the full body of Arbitron knowledge, policy, or procedure.

Critical Band Encoding Technology (CBET)

The proper name of Arbitron's PPM encoding technology is Critical Band Encoding Technology or CBET. Arbitron's CBET encoders insert inaudible information into the audio of the station that has installed the encoder. Multiple pieces of data are included in a station's encoding, including station identifiers, time stamps, quality assurance markers, and other data. The encoder inserts this information into the station's audio by adding very small amounts of energy to the station's signal; the station's audio masks any sound emitted by the addition of this energy. During this process, the encoder is continually analyzing the station's signal to determine the amplitude at which to insert the encoding so that it is inaudible to the human ear.

Encoding Equipment

The full package of encoding equipment includes, at a minimum, a primary encoder, a backup encoder, and an encoding monitor. Arbitron's encoders and encoding monitors are studio-grade pieces of audio equipment designed to integrate with broadcasting equipment across a variety of platforms. Encoding equipment is generally provided free of cost or obligation to any station that agrees to encode. Some digital stations, however, may incur a nominal annual encoder lease fee.

Stations Invited to Encode

In Metros that converted to currency PPM measurement prior to January 2010, Arbitron invited radio stations that were home to the Metro (or corresponding DMA) to encode. Arbitron invited all analog and digital stations to encode, including those not licensed to use Arbitron data.

In Metros that will convert to currency PPM measurement after January 2010, radio stations that have signal penetration into one (or more) of the Metro's counties (according to the most recent available information provided to Arbitron by its data vendor) were invited to encode. Arbitron invited all eligible analog and digital radio stations to encode, including those not licensed to use Arbitron data.

Arbitron routinely monitors FCC and other data resources for information related to changes in radio station facilities. When these data indicate a new station signs on-air with signal coverage in a PPM Metro, Arbitron invites the station to encode. Additionally, Arbitron periodically re-invites stations to encode that declined Arbitron's previous invitation(s).

Arbitron reserves the right to invite radio stations that do not meet the applicable criteria to encode as business conditions warrant. Arbitron invites media outlets that are not radio stations to encode for measurement in other Arbitron services and reports.

Encoding Process

Invitation to Encode Letter

Approximately 12 months prior to the release of a Metro's first currency PPM-based *Radio Market Report*/Arbitron eBook, Arbitron extended the invitation to encode via the encoding invitation letter. Upon the return of the materials enclosed in the invitation letter, Arbitron prepared the station's encoding agreement.

The Encoding Agreement

The Encoding Agreement is a contract that establishes an encoding relationship between Arbitron and the party invited to encode. By signing the encoding agreement, the licensee agrees to use the encoding equipment according

to Arbitron's directions and technical documentation, and to install the equipment within 30 days of receipt. The encoding agreement also contains additional important information and disclosures of the warranties and liabilities associated with the PPM encoding equipment.

Configuration and Shipment of Encoding Equipment

Upon return of a properly executed encoding agreement to Arbitron, a broadcast engineer from Arbitron's Encoding Operations Team will contact the station's engineering staff to begin technical discussions regarding the station's audio paths(s). Based on these discussions, the station's equipment needs are determined; it is essential that the encoding equipment be installed in such a way that encoding may be inserted into all of a station's audio paths. The station's encoding equipment is then configured to the agreed-upon specifications, tested, and shipped to the station for self-installation. The Arbitron broadcast engineer working with the station remains available for assistance during and after installation.

Quality Assurance Testing

When installation of the encoding equipment is complete, Arbitron engages a final round of testing to verify that the station is encoding as intended. Upon completion of this testing, the station is eligible for crediting and reporting in Arbitron's PPM service.

Arbitron Engineer Contact Information

In order to have quick access to experts on matters related to station encoding, all encoded stations are provided office, cellular, and e-mail contact information for the station's Arbitron broadcast engineer. Encoded stations are also provided access to Arbitron's general 24-7 'encoding hotline.'

In-Station Monitoring

It is the responsibility of the staff of each encoded station to monitor the station's encoding. To that end, Arbitron provides each station with a minimum of one encoding monitor. An encoding monitor is a piece of audio equipment that is perpetually "listening" to the encoded station's audio to ensure that the audio contains encoding. If the station

Station Encoding

experiences a loss of encoding, the monitor may be used to notify station staff of the loss of encoding. Arbitron recommends that a station fully integrate the encoding monitor into the station's critical alarm systems; this will ensure that relevant station personnel are notified within three minutes of the start of an interruption in encoding.

IMPORTANT INFORMATION

ARBITRON DOES NOT MONITOR ANY STATION'S ENCODING. IT IS THE SOLE RESPONSIBILITY OF THE STATION'S STAFF TO MONITOR THE STATION'S ENCODING. STATIONS THAT ELECT NOT TO MONITOR ENCODING ARE REMINDED THAT ARBITRON WILL NOT ADJUST A STATION'S AUDIENCE ESTIMATES FOR PERIODS WHEN THE STATION WAS NOT ENCODED.

CBET Code Management

Arbitron uses a complex suite of purpose-built software to program CBET codes into encoders, to assign encoders to stations, and to manage the relationship between CBET codes, encoders, and stations in Arbitron's data processing systems. Multiple quality assurance routines and safeguards are built into this program and into systems that input into it or output from it.

The Unique CBET Policy

Arbitron's **firm** policy is that all analog and digital radio stations that are eligible for reporting in the *Radio Market Report*/Arbitron eBook may not re-transmit the PPM encoding of any other station, and/or provide encoded audio to any other station for re-transmission. As a practical matter, this means that Arbitron requires all stations eligible for reporting to encode with its own unique PPM encoding and encoding equipment.

Stations that the FCC prohibits from originating any original programming are exempt from the unique CBET policy; as such, translators, boosters, repeaters, and HD-primary stations (e.g., the same-band same-channel digital version of an analog station) are permitted to re-transmit the PPM encoding of its simulcast partner.

Additionally, Arbitron recognizes that in times of emergency or natural disaster stations may be required, or may reasonably elect, to broadcast audio that contains the PPM encoding of another station. In such circumstances, Arbitron may elect to waive the unique CBET policy. Should such a waiver ever be granted, Arbitron will notify the marketplace in an appropriate venue.

Enforcement of the Unique CBET Policy

Failure to comply with the Unique CBET Policy may constitute Rating Distortion; in such instances, Arbitron reserves the right to take whatever action is warranted in Arbitron's judgment. In determining the appropriate course of action, Arbitron may consider the nature and duration of the station's non-compliance, the station's position in the marketplace, and the potential impact of the incident upon the perceived integrity of the data. For additional information on Arbitron's Rating Bias and Rating Distortion guidelines, see Chapter 11 of this *Local Syndicated Services Description of Methodology*.

Right to Refuse/Reclaim Encoding Equipment

Arbitron reserves the right to refuse provision of encoding equipment to any station that is unwilling to comply with the Unique CBET Policy. Additionally, Arbitron reserves the right to reclaim encoding equipment from any station using the encoding equipment in an unauthorized fashion.

Equipment Audits

Arbitron regularly audits the performance of its encoders deployed in the field. In the event that an Arbitron audit indicates that an encoder is operating at a less than optimal level, an Arbitron representative may contact station personnel to discuss the encoder's operation and to help the station resolve (to the greatest extent possible) any factors adversely affecting the encoder's operation.

Important Information for Encoded Internet Streams

As the distribution path of an Internet stream is much more complex than the signal path of a broadcast station, the encoding of Internet streams is open to a unique set of risks that are unrelated to the functioning of the Arbitron encoder.

Arbitron recommends streaming encoded audio at a 44.1 kHz sample rate and a 32 kbps bit rate. In Arbitron's opinion, these are the recommended minimum settings as they mitigate—to the greatest extent possible—risks inherent in streaming and/or media player technology that may put the fidelity or continuity of the encoded stream at risk.

Arbitron encourages all encoded Internet stations to review the recommended minimum sample rate and bit rate settings with their streaming services provider(s); streaming service providers that stream stations at lower than the recommended minimum settings may be putting their client stations at a disadvantage compared to service providers/stations that choose to adhere to the recommended minimums.

Station Requalification

Approximately three calendar years after a Market's conversion from Diary measurement to PPM measurement, Arbitron's broadcast engineers reach out to all encoded stations in the Market to 're-qualify' the stations' encoding. During the requalification, Arbitron updates the set of signal flow diagrams for the encoded station, re-performs the quality of service testing that validated the station's encoding upon initial installation of the equipment, and addresses any questions or concerns that the station may have related to encoding. During the Market's requalification, Arbitron also re-invites stations to encode that declined Arbitron's previous invitation(s).

PPM Household Equipment and Panel Relations

Individuals who participate in the Arbitron PPM Panel are "Panelists." To remain in the Panel, a Panelist must comply with Arbitron's instructions related to PPM-carriage and docking. Through a set of business-patented processes, Arbitron monitors and maximizes Panelist compliance with its instructions. These techniques and processes are a key quality control of the end-to-end PPM system; by maintaining a dynamic relationship with Panelists and Panel households, Arbitron helps to improve the representativeness of the Panel. This chapter will provide a broad overview of key policies and procedures related to these activities. The descriptions included herein are for general purposes only, and do not constitute the full body of Arbitron knowledge, policy, or procedure.

Household Equipment

The full suite of household equipment provided to each Panel household includes a Portable People Meter™ (PPM) and recharging unit for each eligible person in the household and one data collection hub for the household.

The Portable People Meter

The Portable People Meter is a small electronic instrument containing a microphone, an LED indicator light, an accelerometer, and data storage technology. The Meter is perpetually 'listening' for information that has been encoded into the audio of media outlets that have installed the PPM encoding equipment. Upon detection of this information, the Meter stores the information until the Panelist docks the Meter into its recharging unit.

The Recharging Unit

Each Meter is married to a recharging base unit. Before going to bed each day, the Panelist docks the PPM into its recharging base unit; once docked, the base unit extracts the Panelist's media exposure and motion data and sends the data to the household collection hub. The unit also recharges the Meter's battery.

Household Collection Hub

The household collection hub is a device that collects, collates, and transmits the data extracted by each Panelist's Meter recharging unit. Once the hub collects

and collates the household's data, it securely transfers the data to Arbitron.

Installation and Testing

PPM household equipment is a "plug-and-play" system intended for self-installation by the household; no special knowledge or wiring is required to install the equipment. Arbitron verifies successful installation of the equipment via a quality assurance test; a household will not be eligible to be in-tab until this test is completed. Arbitron associates work with households to resolve problems with household equipment as necessary.

Panel Relations Specialists

Arbitron's Panel Relations Specialists act as liaisons between Arbitron and the Panel; these associates train new Panelists, monitor Panelist compliance, and provide coaching as necessary.

Panelist Instructions

The only instructions that Arbitron provides to a Panelist is for the Panelist to wear or carry his or her Meter from the time the Panelist wakes at the start of the day until the Panelist goes to bed.

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 6-17 years of age, the minimum compliance standard is five hours. While Arbitron's messages to Panelists stress the importance of wearing or carrying a Meter, Arbitron does not disclose any information regarding the minimum compliance standard to Panelists. (Note: there are additional criteria that Panelist must meet to be included in a media day's In-Tab sample.)

Panelist Coaching

Arbitron may contact a Panelist that does not comply with its instructions in order to coach the Panelist to wear or carry his or her Meter each day. Panelist coaching

may take place via telephone or via in-person visits to the household. Arbitron may also elect to send the Panelist messages related to compliance via the Panelist's base unit recharger.

Panelist Travel

Arbitron instructs a Panelist to take his or her Meter when traveling away from home for fewer than 14 consecutive days. Data collected during the travel period are stored in the Meter until the Panelist returns home; upon docking the Meter into the recharging base unit, the unit collects up to the most recent seven days worth of data. Arbitron provides travel Meter rechargers to Panelists upon request.

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 based 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.

Update of Demographic Characteristics

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. In addition to automatic updates of a Panelist's age during the Panelist's birth month, Arbitron also contacts each household every 135 days to re-confirm each Panelist's demographic information (excluding gender, birth month, birth year, and Hispanic origin/race). Additionally, Arbitron re-collects *all* of a household's

PPM Household Equipment and Panel Relations

demographic information 13.5 months after the household enters the Panel. Arbitron processes interim updates to the household's demographic information upon learning of the change.

Turnover/Panel Expiration

As a matter of policy, a household can participate in a PPM Panel for a maximum of 24 months. For detailed information regarding this policy, the exceptions to it, and the mechanics of how Arbitron expires households from the Panel, see the "Turnover" section in Chapter 3 of this *Local Syndicated Services Description of Methodology*.

Removal of a Panel Household

Arbitron may elect to remove a household from the Panel at any time due to poor compliance with Arbitron's instructions. The process Arbitron uses to identify these households is objective, and takes into account circumstances such as extended periods of travel or illness.

Additionally, Arbitron may discover other circumstances that, in the interest of research quality, require the removal of an otherwise compliant household from the Panel. 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. Three key status codes include *online*, *offline*, and *on-hold*.

Arbitron classifies a Panelist as *online* when all Panelists in the household have installed their equipment, undocked, and wear their Meters. Online Panelists are eligible to be included in the In-Tab sample and are included in the count of installed Panelists.

Arbitron classifies a Panelist as *offline* when it is necessary for Arbitron to exclude the Panelist from the In-Tab sample without removing the household from the Panel. For example, Arbitron classifies a Panelist waiting for replacement equipment as offline. (Note:

Arbitron ships replacement equipment via an overnight delivery service, thereby limiting the duration of the Panelist's offline status to two days.) Offline Panelists are not eligible to be included in the In-Tab sample, but are included in the count of installed Panelists.

In a very limited set of circumstances, Arbitron may also classify a Panelist as *on hold*. One may think of an on hold Panelist as a "Panelist in waiting." An on hold Panelist has installed household equipment, is complying with Arbitron's instructions, is receiving the same incentives and coaching as online Panelists, but is excluded from the In-Tab sample. A Panelist's on-hold status will be changed to online as business conditions warrant. On hold Panelists are not included in 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

Diary Processing

proceed to the next stage of 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,

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empirically derived substitution matrix. Diaries with both Saturday and Sunday blank are classified as unusable.

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.

Remedial Action and Reissue of a Diary-based Radio Market Report/Arbitron eBook

In the event that a data processing or reporting error has affected a Diary-based *Radio Market Report/Arbitron eBook*, Arbitron will consider the cause and significance of the error when determining whether remedial action is warranted. Arbitron will generally reissue a 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.

In determining whether a station is "significantly ranked" in a given report (for purposes of applying these guidelines), Arbitron will consider such factors as the size of the Market, whether advertisers in a Market that size are likely to buy time on a station with the affected station's rank, the station's overall rank after the change, the importance of the affected demo to the station's advertising or promotional efforts, and the station's performance in other relevant demos and dayparts. 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 corrective 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/Arbitron eBook*.

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).

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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

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

Process Overview

Upon transfer of data from the Panel, Arbitron converts the data to a format that is usable by other computer programs downstream in Arbitron's data processing workflow. Next, a complex set of synchronized software applications apply edits to individual segments of the normalized data, as necessary, and determines if the Panelist is eligible to be in-tab for that media day. The edited data are then forwarded to sample weighting and estimates reporting modules.

The Media Day

The PPM media day begins at 4AM and continues until 4AM the next day. Thus, 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 with each docking of their Meters. Arbitron's processing software ensures that media exposure captured by Panelists who wake up and go to bed according to nonstandard schedules that overlap multiple media days are credited and reported to the appropriate media day.

The Reporting Week

The PPM report week begins on Thursday and ends the following Wednesday. Should data for a report period be transmitted to Arbitron after final processing of that week's data begins, it is not possible for Arbitron use the data. As most Panelists transfer data to Arbitron every day, it is rare that data are received by Arbitron after the data collection window is closed.

Data Transmitted by Encoders

One may think of the data transmitted by PPM encoders as a series of symbols and alphanumeric characters that are arranged into units of a fixed length. Combinations of characters within the

units represent station identifiers, broadcast time stamps, quality assurance markers, and additional information. Upon exposure to encoding, a Panelist's PPM appends other information to the encoding. The data are then stored in the Meter's memory until it is docked.

Data Organization and Preliminary Station Crediting

Upon receipt of a Panelist's data each day, Arbitron's data processing systems simultaneously organize the Panelist's data into units that represent 30-seconds of the Panelist's media exposure and credits each unit to the radio station represented by the station identifiers in the segment's encoding. Arbitron credits a radio station for the full 60-seconds of exposure for any clock minute in which the Panelist was exposed to the station for at least 30 seconds. (Note: Arbitron's data processing systems perform the operations described above on the set of all Panelists at the same time.)

Quarter-Hour Crediting

A station receives credit for any quarter-hour during which the Panelist was exposed to the station for a cumulative five minutes.

Station Edits

The majority of PPM encoding contains unambiguous station identifiers. Some encoding may contain station identifiers that cannot be exactly matched to any encoded radio station. Edits are in place to credit these exposures to encoded radio stations; which edit is applied is determined by the degree to which the station identifier does not match/is similar to other station identifiers and by that exposure's proximity to other exposures.

Time Edits

All the encoding captured by a PPM, and the information appended to the encoding by the PPM, contain time stamps. Arbitron's data processing systems organize the chronological sequence of all media exposure by a set of processes that compare the encoder time stamp against the time information

appended to the encoding by a Panelist's PPM. The duration of a Panelist's exposure to encoded stations is determined from calculations made upon these various time stamps. While the vast majority of encoding contains complete, ordered, and unambiguous 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 appended to the encoding by the PPM.

The 'Duration Edit'

One may think of a Panelist's exposure to encoded radio 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 data stream. If such a 'blank' precedes a segment of data, Arbitron credits the blank segment to the station credited in the subsequent segment. When applying this edit, Arbitron does not assign credit for breaks 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. Arbitron identifies time-shifted exposure by comparing the time stamps captured by the PPM and the time stamps in the data appended to the encoding by the PPM. A station receives credit for time-shifted exposure to the station 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

A PPM is listening for encoding at all times, including when it is docked in its recharging unit. Arbitron has deployed an edit that allows for a subset of a Panelist's exposure to encoded media

PPM Data Processing

that occurs while the Meter is in the dock to be included in the audience estimates. While the parameters of the docked Meter edit is fixed, variables such as the duration of the docked-Meter's exposure to encoded media, and the relationship of the time of the Meter's docking to the start of the next media day, will affect how the edit is applied. Arbitron discards docked-Meter exposure that occurs outside of the applicable parameters.

Location Edit

The in-home 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.

Code Layering

It is possible to 'layer' multiple streams of encoding within the same audio. For example, an audio transmission may contain encoding for the radio station that broadcast the audio, encoding for the network that originated the programming, and encoding for specific commercials. The presence of multiple layers of encoding within audio does not degrade encoding quality or hamper editing. Note: the data processing techniques described in this chapter are applicable to 'station layer' encoding only; Arbitron does not use encoding from any layer other than the 'station' layer in the *Radio Market Report*/Arbitron eBook.

Quality Assurance and Data Security

Arbitron has built multiple automated and manual quality assurance checks into each process step and software module of the end-to-end PPM data processing system. These quality assurance measures help to ensure that all edit rules have been consistently applied, that all data are accounted for, and that all applicable data are included in each report. Additional security measures are in place at each stage of data collection, data transfer, data processing and data release to maintain the security of the data and the systems used to process the data. These measures, because of their nature, remain confidential.

In addition to the quality assurance checks described above, motion-based and listening-based usability checks are also in place. Examples of these checks include an analysis of the motion and listening data from Panelists residing in the same household, and analysis of the total number of quarter-hours of a Panelist's exposure to encoded media. Should a Panelist or household exceed either of these thresholds, the household or Panelist may be subject to additional coaching, removed from the daily In-Tab sample or removed from the Panel. Due to their nature, these thresholds, and the analyses that support them, also remain confidential.

Remedial Action and Reissue of Monthly Data

In the event that a data processing or reporting error has affected a PPM-based *Radio Market Report*/Arbitron eBook, Arbitron will consider the cause and significance of the error when determining whether remedial action is warranted. Arbitron will generally reissue a 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.

For the purpose of applying these guidelines, Arbitron considers such factors as the size of the Market, whether advertisers in a Market that size are likely to buy time on a station with the affected station's rank, the station's rank after the change, the importance of the affected demo to the station's advertising or promotional efforts, the station's performance in other relevant demos and dayparts, and other factors, when determining if the station is 'significantly ranked.' The final decision regarding possible report reissue lies solely and unilaterally with Arbitron.

Sample Weighting

Survey researchers generally use some form of sample weighting to 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.

This chapter will provide a broad overview of Arbitron's sample weighting policies and procedures for Diary-based and PPM-based *Radio Market Reports*/Arbitron eBooks. The policies and procedures described in this chapter are for general information purposes only, and do not constitute the full body of Arbitron knowledge, policy, or procedure.

Readers are cautioned that the policy and methodology described in this chapter is applicable to the *Radio Market Report*/Arbitron eBook service only; weighting methodology for other Arbitron services, reports, or software programs may differ from those described in this chapter.

Overview of Sample Weighting

The methodology Arbitron uses to weight its In-Tab sample is called *sample balancing*. It is an iterative marginal weighting technique designed to maximize statistical reliability while minimizing bias in the tabulated data.

This method was developed by Drs. W. Edwards Deming and Frederick F. Stephan and is outlined in Chapter Seven of Dr. Deming's book, *Statistical Adjustment of Data* (Dover Publications, 1964). This method is commonly used in survey research by the U.S. Bureau of the Census, private sector research organizations, and academic institutions.

Weighting Variables

In general, maximum reliability and minimum bias are achieved by performing the least amount of weighting necessary to correct for sample disproportionalities that could distort the audience estimates. It would be possible to perform more weighting—i.e., weight to more discrete levels—but excessive weighting would decrease the reliability of the resulting estimates, while providing little reduction in bias.

Arbitron's In-Tab sample may be weighted on up to six variables including: geography, sex/age, race/ethnicity, dominant language (Spanish/English in Markets where Spanish-dominant language-usage universe estimates are available), 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 may also vary from Market to Market.

Geography

All sample is weighted to the individual county, county equivalent or county cluster level. Thus, the number of geographic classes may vary considerably from one Market to the next. (In some instances, generally in the non-Metro TSA, several adjacent counties with low in-tab may be clustered together as one geographic class for sample balancing purposes.)

Sex/Age

All sample is weighted to the applicable Sex/Age class. Diary In-Tab is weighted 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+

PPM In-Tab is weighted 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: in circumstances where a Panelist does not provide his or her exact age during recruitment, Arbitron will offer the Panelist a choice of several age ranges. Upon the Panelist's identification of the applicable age range, the Panelist will be assigned the age value corresponding to the midpoint of the Panelist's selected age range. If the Panelist refuses to provide either an exact age or to identify the appropriate age range, efforts to recruit the Panelist cease. To be eligible to be included in the In-Tab sample, all Panelists must have provided age information to Arbitron.)

Race/Ethnicity

In ethnic-controlled Metros, sample is weighted toward race/ethnicity as applicable. 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. Respondents who indicate that they are both Black and Hispanic are deemed 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, Hispanic sample is weighted to one of two language classes: English-dominant or Spanish-dominant.

Employment Status

PPM sample is weighted to one of two employment statuses: full-time or not full-time. Note: persons under the age of 18 are not weighted by employment status.

Presence of Children

PPM sample is also weighted based upon the presence of children in the household under the age of 17.

Sample Weighting

Example of Iterative Marginal Weighting

Following is an example of the iterative marginal weighting technique Arbitron uses in the preparation of Diary-based *Radio Market Report*/Arbitron eBook data. This example assumes that for weighting purposes, the survey area has two ethnic classes (Hispanic and Other), 16 sex/age classes, and three county classes.

The statistical principles shown in this Diary-based example also apply to the weighting of PPM sample.

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.

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 (1.25×1.03) 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.

Determination of Diary Persons-Per-Diary Values (PPDV) and PPM Weights

Sample balancing produces weights for each marginal class within a survey area, and each In-Tab respondent belongs to one class within each marginal category. Therefore, each 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 500×1.25 , 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.

Diary PPDVs in Non-Embedded Condensed Radio Metros

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 *Maxi\$er*[®] and *Media Professional*[®] 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 *Maxi\$er*/*Media Professional* listening estimates will generally match those found in the *Radio Market Report*.)

Diary Sample Balancing 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.

Sample Weighting

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

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 Markets, Arbitron balances the entire PPM In-Tab sample to one set of independent population estimates. In other Markets, Arbitron sample-balances race/ethnic classes to race/ethnic, sex/age and geographic population

estimates separately, and then sample balances the entire Market in-tab to population estimates for other marginal variables. Note: PPM-measured Houston-Galveston DMA counties are combined with Houston-Galveston Metro counties for weighting purposes.

Daily and Weekly Weighting of the PPM Sample

Arbitron produces a wide range of estimates based upon PPM data. As such, a particular PPM Panelist may have a different weight depending upon the estimate and the weighting model used in preparation of the estimate. PPM weights fall into one of two general categories: Daily Weights and Weekly Weights.

Daily Weights

The final daily In-Tab sample for each media day is weighted to produce a daily weight; this weight is used in deriving daily estimates, such as daily Cume and AQH.

Weekly Weights

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

In-Tab Diaries for Custom Survey Area Reports are weighted using the same sample balancing system that is used for *Radio Market Reports/ Arbitron eBooks*. Each "special" county is combined with its corresponding original county and treated as one sampling unit for sample balancing purposes.

Custom Survey Area Reports that include a Metro(s), such as state or regional reports, retain the PPDVs applied to the Metro's in-tab for that survey whenever possible. The remaining non-Metro counties are re-weighted with respect to their representation within the remaining portion of the Custom Survey Area.

Reservation of Rights

All determinations regarding Arbitron's Diary and PPM sample weighting policies and procedures—including weighting variables, models, and sample balancing configurations—remain solely and unilaterally with Arbitron. Additionally, Arbitron may waive, change, modify or suspend 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, 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.

Audience Estimates

Average Quarter-Hour Estimates

The term "Average Quarter-Hour" (abbreviated as "AQH") is a radio-industry term that is generally understood 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 will provide a summary of Arbitron's policies for the reporting of audience estimates in the *Radio Market Report*/Arbitron eBook. The information in this chapter is for general purposes only, and does not constitute the full body of Arbitron knowledge or policy.

Stations Eligible for Reporting

Stations eligible for reporting in a Diary-based *Radio Market Report*/Arbitron eBook 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*/Arbitron eBook 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

AM and FM Radio Stations

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

Complementary Stations

Listening credited to complementary stations, 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 complementary stations are not available in any Arbitron service.

Low Power FM Stations

In select reports or services, 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."

Analog LPTV Stations

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").

Digital Stations

To account for the fact that the FCC has not determined naming rules for digital stations broadcasting on the FM spectrum, and that some digital stations eligible for reporting fall outside of FCC jurisdiction, Arbitron has developed a 'call sign' for each digital station that is used to denote the station in all of Arbitron's databases. Arbitron names digital stations with the call letters of the analog station that broadcasts the digital station followed by an alphanumeric band ID 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

Stations That Changed Call Letters During the Survey/Report Period

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 is the station's previous call letters. In the event of exchanges of frequencies between stations in a Market, the call letters under which audience estimates published are based on Arbitron's verification and interpretation of information from various relevant sources, which include the FCC

and the affected stations. Specifics regarding the above are listed on the "Special Notices" page of the applicable report(s).

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 for 'Market totals' in PPM-based reports.

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 in circumstances where a broadcaster has declined Arbitron's invitation to encode.

Total Line Reporting (TLR)

Radio 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 to have listening to simulcasting stations combined and reported via a 'total line' that is labeled with the call letters of one of the simulcasting stations (e.g., the combo's 'primary' station). 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 station. Note: stations prohibited from streaming portions of their on-air

Station Reporting and Station Information

signal and stations that elect not to stream all on-air commercials are not exempt from the 100 percent simulcast requirement. Stations considering Total Line Reporting are cautioned that audience estimates and unweighted information (e.g., In-Tab and quarter-hour counts) for individual TLR partner stations are not available in any service or report and that starting/ending a Total Line Reporting relationship will affect the manner in which historical trends are reported for individual partner stations. Stations may request Total Line Reporting by completing the appropriate section of the Station Information Form.

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:

- a. The station must have been credited for at least one quarter-hour in at least 10 In-Tab Diaries; **and**
- b. The station or combo must have a Metro Cume rating of 0.495 or greater; **and**
- c. 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 eligible, encoded station or combo will be 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:

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

- b. The station or combo must have a Metro Cume rating of 0.495 or greater.

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.

Rating Distortion, Rating Bias, and "Below the Line" Listing

Arbitron may elect to report stations that have engaged in activities that have Rating Bias or Rating Distortion potential out of alphabetical sequence below a special distinguishing line.

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

The term 'special notices' refers to information included in each issue of the *Radio Market Report*/Arbitron eBook that is intended to provide the user of the data information with which to make evaluations of the data. For example, details regarding the Total Line Reporting relationships, frequency moves, special station activities, technical difficulties, and interruptions in encoding are included in the report's special notices.

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. This information is obtained 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

The Station Information Packet (SIP) is Arbitron's primary vehicle for collecting station information. The SIP is mailed to all radio stations seven weeks prior to the first day of the next Diary survey. The SIP contains the Station Information Form, along with instructions and other useful information. Completed SIP forms are due back to Arbitron four weeks prior to the beginning of the survey.

The Station Relations Team

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.

Station Names

Arbitron uses the term "Station Name" to refer to a station's most frequently used on-air identifier other than the station's call letters or lone exact frequency. Examples of Station Names include "Hot 107," "Q95.3," "The Rocker" and "Newstalk 1100." Arbitron maintains a record of the current station name, and previous station names, for all stations that submit station information. Arbitron's Diary processors may cross-reference the station names reported in Diary entries and the most recent station information on file. As encoded radio stations may be heard in areas measured by Diaries, it is important for encoded stations to report a station name to Arbitron each survey. Note: having a station name on file with Arbitron does not constitute legal authorization to use the station name, guarantee exclusive use of the station name, or substitute as a service mark or trademark.

Station Reporting and Station Information

Station Name Guidelines

A station must use the station name as an on-air identifier at least four times per hour, or on more than 50 percent of the occasions on which a station uses an on-air identifier during the broadcast hour.

To satisfy this requirement, a Station Name may not be continuously repeated. A Station Name may contain up to 25 characters (including spaces) but may not contain the station's call letters, exact frequency, an abbreviation, punctuation marks or symbols, the name of a person, the name of a radio program, the name of a professional or collegiate sports team, multiple/alternate spellings of the same word, or redundant elements.

Stations that use a truncation or rounding of their frequency (also referred to as a whole number) as a station identifier, must submit the whole number as a part of its Station Name in order to be eligible for credit of whole-number Diary entries. Arbitron will not accept any more than one whole number in a Station Name.

Station Name Air-Check

Station Names that are not used in accord with the guidelines are subject to deletion from Arbitron's databases. In the event that a station has misreported its Station Name or is not using the station name in accord with the guidelines, another radio station may challenge the station's use of the identifier via a station name air-check. Additional information regarding the air check process is available from Arbitron's Radio Station Relations Team.

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. If it is not possible for a station to pre-notify Arbitron of facility changes, it is important for stations to report changes in the station's facility information to Arbitron in a timely fashion. 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.

The Station Name Preview

The "Station Name Preview" is a document that lists the station name on file for all stations that reach into the Metro. Arbitron mails a printed Station Name Preview to all stations licensed to a Diary-measured Metro (and select other stations) on the Monday of the week prior to the start of Diary survey.

The Station Encoding Preview

The "Station Encoding Preview" is a document that lists all encoded analog and digital radio stations in the PPM-measured Metro that were eligible for reporting as of the first day of the applicable report period. A secured electronic copy of a Market's preview is e-mailed to designated station management of all stations that accepted Arbitron's invitation to encode for measurement in the area. Arbitron publishes an updated preview during the first week of the January, April, July, and October PPM report periods. Each issue of the preview also lists the station name on file for stations reported on the preview, and contains additional information related to encoding and reporting, reminders on the importance of in-station monitoring, and Arbitron contact information for matters related to Arbitron policy, station reporting, and audio engineering.

Rating Distortion and Rating Bias Policies and Guidelines

The radio industry relies upon information published as a part of Arbitron's *Radio Market Report*/Arbitron eBook service for estimates of the size and composition of radio audiences. Station activities that have the potential to adversely impact the credibility of the estimates undermine the perceived value of radio as a medium for advertising, and the credibility of radio as an honest and indispensable provider of information and entertainment.

To help maintain the integrity of data published as a part of the *Radio Market Report*/Arbitron eBook service (and, by extension, the credibility of radio as a healthy and dynamic medium), Arbitron has developed Special Station Activity guidelines; these guidelines are intended to help radio broadcasters avoid any activity that has the potential to adversely impact the credibility of the audience estimates. These guidelines were crafted in cooperation with radio broadcasters, advertisers, and other industry groups, and are in accord with MRC and industry guidelines.

Arbitron provides the following general information relating to Rating Distortion and Rating Bias to assist users of the *Radio Market Report*/Arbitron eBook in evaluating the data. As a practical matter, any general discussion of Arbitron's special station activities guidelines cannot describe all possible station activities that constitute Rating Distortion or Rating Bias. As such, the following categories and examples are illustrative and are not all-inclusive.

Rating Distortion/Rating Bias Violations

Arbitron may exclude from its services and reports (e.g., delist) any station that, in Arbitron's judgment, has engaged in an activity with Rating Distortion or Rating Bias potential. Activities that do not warrant delisting may, nonetheless, be communicated to the marketplace by placement of a notice in the applicable report(s), placement of the station out of alphabetical sequence, placement of the station below a special distinguishing line ("*below-the-line*" listing), or by any other means deemed appropriate by Arbitron. Arbitron also reserves the right to engage other/additional forms of remedial action.

Rating Distortion

Categories of activities with Rating Distortion potential include those that may lead a Diarykeeper to misreport listening or a Panelist to collect inauthentic media exposures, Diarykeeper or Panelist solicitation, the participation of media-affiliated individuals in the survey or Panel, and the unauthorized use of encoding equipment.

Misreported Listening

In Diary-measured Markets, Arbitron considers as Rating Distortion any station activity that, in Arbitron's judgment, may affect the way in which Diarykeepers record their listening so that the recorded listening differs from actual listening.

Inauthentic Exposure to Encoded Media

In PPM-measured Markets, Arbitron considers Rating Distortion any station activity that, in Arbitron's judgment, may affect a Panelist's behavior so that the media exposures captured by the Panelist's Meter differ from the Panelist's actual exposure to encoded media.

Diarykeeper/Panelist Solicitation

In all Markets, Arbitron considers as Rating Distortion any announcement, statement, or activity that, in Arbitron's judgment, may prompt any Diarykeeper or Panelist to identify his or her participation in the survey or Panel; to surrender control of his or her survey instrument to a person other than that intended by Arbitron; and/or to provide false demographic or household information to Arbitron. Additionally, Arbitron may consider any attempt by a station to learn the identity of a Diarykeeper or Panelist as Rating Distortion—regardless of whether the attempt results in the disclosure of any Arbitron research participant.

Media-Affiliation (Station Employee)

Participation in a Diary survey or PPM Panel by an employee of a radio station constitutes Rating Distortion by the station with whom the person is affiliated.

Media-Affiliation (Other Persons)

Persons employed by a television station, and members of a household containing a person employed by a radio or

television station are not eligible to participate in an Arbitron Diary survey.

Employees of broadcast/cable television stations, broadcast/television networks, or advertising agencies, and members of their households, are not eligible to participate in an Arbitron PPM panel.

Participation in a Diary survey or PPM Panel by any of the persons described above will constitute Rating Distortion by the station with whom the person is affiliated. If a station employee discovers that a household member has participated, or has agreed to participate in a Diary survey or PPM Panel, Arbitron should be notified immediately.

Unauthorized Use of Encoding equipment

Arbitron considers the unauthorized use of encoding equipment, and/or the unauthorized use of encoded audio, as Rating Distortion. Unauthorized use may include—but is not limited to—the use of Arbitron encoding equipment by any station (including a co-owned station) other than the station for which the equipment was authorized by Arbitron, and/or Double Encoding of a station's audio signal. Arbitron reserves the right to take whatever measures are necessary, in Arbitron's opinion, to protect the integrity of data published as part of the *Radio Market Report*/Arbitron eBook.

Rating Bias

Activities with Rating Bias potential include those that may differentially sensitize one station's listeners to Arbitron's methodology, survey process, survey Diary, PPM recruitment process, or PPM equipment, relative to individuals who listen to other stations.

Promotion of Participation

In all Markets, Arbitron may consider as Rating Bias any activity, announcement, or statement, in any medium, by or on behalf of a station to the station's audience that may, in Arbitron's judgment, differentially prompt the station's audience to participate in a Diary survey or PPM Panel.

Encouragement to Report Listening

In all Markets, Arbitron will consider as Rating Bias any activity, announcement,

Rating Distortion and Rating Bias Policies and Guidelines

or statement, in any medium, by or on behalf of a station to the station's audience, that may, in Arbitron's judgment, prompt the station's audience to report their listening to Arbitron or expose their Meters differently when listening to the station than when listening to other stations.

Encouragement to Comply With Arbitron's Instructions

In all Markets, Arbitron will consider as Rating Bias any activity, announcement, or statement, in any medium, by or on behalf of a station to the station's audience that may, in Arbitron's judgment, encourage the station's audience to comply with Arbitron's instructions to Diarykeepers and/or Panelists.

Survey Announcements

In all Markets, Arbitron will consider as Rating Bias any announcement or statement delivered by a radio station, in any medium, that alerts the station's listeners to Arbitron's methodology or instruments, or that a survey/report period is, or will soon be, in progress. Similarly, announcements that emphasize the importance of participation in radio ratings surveys or panels, regardless of whether the words "Arbitron" or "Diary" or "PPM" are used, may also constitute Rating Bias. Frequently, such announcements will urge participants to be "honest" or "accurate" in reporting their listening; such instructions do not negate an announcement's bias potential.

Indirect Appeals

In all Markets, Arbitron may consider as Rating Bias any indirect appeal to Diarykeepers or Panelists that may make no specific reference to Arbitron, surveys, panels, or ratings, but may nonetheless differentially affect the way Diarykeepers and Panelists report their listening to the station presenting the message. Such messages sometimes urge listeners to keep track of their listening. Other indirect appeals use language or graphics that suggest or describe the survey process, the importance of carrying a Meter, or emphasize that the station's success depends upon listeners reporting their listening.

Extemporaneous Comments

Arbitron may consider as Rating Bias or Rating Distortion any extemporaneous comments (on the air or in any other medium) that refers or alludes to a past, current, or future Arbitron survey or report period, the Diary, PPM, or radio ratings, in a way that might sensitize Diarykeepers and Panelists to the survey process or that may affect the way Diarykeepers and Panelists comply with Arbitron's instructions. As the name implies, Extemporaneous Comments are generally one-time-only, spontaneous remarks that may have been intended as humorous. The circumstances surrounding a reference will generally affect Arbitron's decision on whether to cite that reference as Extemporaneous Comments. Where warranted, however, Arbitron may cite such a reference as a Rating Bias and/or Rating Distortion activity, even if the reference appears to have been a one-time-only remark.

Sourcing

Arbitron does not consider as Rating Bias sourcing of previous survey or report period information in the form of advertising that promotes a station's success in prior surveys or reports, as permitted by contractual agreement with Arbitron. Note: references to a station's performance in prior surveys in the context of appeals for support, or other indirect references to the survey process, are not protected under this guideline and may, in fact, be cited by Arbitron as activities with Rating Bias potential.

Rating Distortion/Rating Bias Process and Procedures

Requests from a station for Arbitron to conduct an inquiry into an activity by another station should be submitted to Arbitron in writing, accompanied by evidence, such as an air-check recording, direct-mail advertisement or newspaper clipping. Requests will be accepted through the last day of the report period and should be addressed to: *Special Station Activities Committee, Arbitron Inc., 9705 Patuxent Woods Drive, Columbia, MD 21046-1572*. The initiation of an inquiry is solely within the discretion of Arbitron.

Arbitron will review activities conducted at any time (not just during a report

period) for compliance with the above guidelines if, in Arbitron's judgment, the activity has the potential to undermine the integrity or perceived integrity of the audience estimates. The same activity could be subject to citation for two or more consecutive reports, depending on the timing and severity of the activity.

Activities noted for one station may also be cited for additional stations on which the specific programming segment was also broadcast.

To avoid activities with Rating Distortion or Rating Bias potential, stations are advised to submit planned activities to Arbitron for a confidential pre-review. Additional information on the pre-review process can be obtained from Arbitron's Special Station Activities committee.

Social Networking Sites and Other Applicable Media

Arbitron's Rating Distortion and Rating Bias guidelines are applicable to activities and comments by stations and their staff members in any medium to which listeners are likely to be exposed—including newspapers, social networking sites, and other media that communicate via written words. Comments made by station personnel in social networking sites, for example, may be treated as Rating Distortion, if the comments are likely to prompt current Arbitron diarykeepers or Panelists to disclose their participation—regardless of whether the comments result in such a disclosure and regardless of whether the station personnel use pseudonyms.

Additional Information

Rating Distortion and Rating Bias activities noted in Arbitron's reports may or may not have actually affected audience estimates. It is not possible to either prove or disprove the effect of such activities, and Arbitron makes no attempt to do so. Activities with Rating Distortion or Rating Bias potential are nonetheless inherently detrimental to broadcasters, advertisers, and media researchers; that such activities occurred may undermine confidence in the audience estimates and constitutes sufficient reason to notify report users of their occurrence.

Rating Distortion and Rating Bias Policies and Guidelines

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, even though the activity does not meet any of the criteria stated above. Arbitron further reserves the right to take other appropriate action depending upon the content, context, frequency, or repetition of the activity.

Users of this *Local Services Description of Methodology* are reminded that the Rating Distortion and Rating Bias policies and guidelines herein apply to the *Radio Market Report*/Arbitron eBook service; Rating Distortion/Rating Bias policy for other Arbitron services may differ from those described herein.

For additional information, and to review statements from industry groups in support of Arbitron's Rating Distortion/Rating Bias guidelines, please see the separate publication *Rating Distortion and Rating Bias Handbook*.

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 is 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 will provide a broad conceptual overview of the reliability of Arbitron estimates published in Diary-based and PPM-based *Radio Market Reports*/Arbitron eBooks. 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's knowledge.

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.

Standard Error

An important statistical measure of sampling error is called *standard error*. Adding and subtracting a multiple of the standard error of any estimate from that estimate produces a range called a *confidence interval*. When a confidence interval is equal to plus or minus one standard error, the user can be 68 percent confident that a census of the total population would yield an estimate within that confidence interval. The level

of confidence increases as the number of standard errors (1.0, 1.64, 1.96, etc.) used to construct the interval increases. All things equal, the smaller the standard error, the more reliable the estimate.

Quantifying Reliability of Audience Estimates

Simple random sampling is a method of selecting people from the population such that each person has the same chance of being selected. The standard error of a rating based on a simple random sample would be determined as follows:

$$se = \sqrt{\frac{p \cdot q}{n}}$$

where: p = the rating, q = 100 minus the rating, and n = sample size.

If Arbitron surveys and Panels were based on a simple random sample of persons who were each asked only one question (e.g., "Did you listen to station WAAA for at least five minutes between 9:00 and 9:15 Monday morning?"), then "n" would be a straight count of the number of persons responding to the question. But most surveys are not based on simple random samples. (Sampling of multiple persons-per-household and county-level sample stratification are two "non-simple random sample" aspects of Arbitron's sampling methodology.) Additionally, Arbitron's surveys and Panels capture more than one piece of information from each person, and multiple pieces of information are used to produce one rating for each qualifying station for each daypart.

Because the Arbitron sample is not a simple random sample, the effective sample size is not a simple "n"; rather, it is a quantity other than "n." Therefore, the formula for estimating the standard error of an Arbitron estimate is expressed as follows:

$$se = \sqrt{\frac{p \cdot q}{ESB}}$$

where: p = the rating, q = 100 minus the rating, and ESB = the Effective Sample Base.

Effective Sample Base (ESB)

The Effective Sample Base (ESB) is 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.

In the equation above, since "p" and "q" are known estimates, it follows that when Arbitron sought to develop a means of quantifying the reliability of its audience estimates, the essential task was to develop a method for estimating the ESB for each audience estimate.

Arbitron Replication II: A Study of the Reliability of Radio Ratings

In 1971, Arbitron responded to the challenge of the National Association of Broadcasters and the Broadcast Rating Council [now known as the Media Rating Council (MRC)] to all ratings services to study the reliability of their estimates.

In 1974, preliminary results on radio reliability were published in *Arbitron Replication: A Study of the Reliability of Broadcast Ratings*. Then, in 1981, *Arbitron Replication II: A Study of the Reliability of Radio Ratings* was completed. The purpose of this exhaustive study, conducted in association with the MRC, was to determine the factors that affect radio ESBs and to provide users with an easy, logical method of estimating sampling error in the *Radio Market Reports*. Key results of the study include:

- Identification of a number of factors that affect ESB: multiple observations per respondent; number of respondents per household; survey area (Metro, TSA, DMA); weighting;
- Development of a model that would reflect the impact of each of these factors on the ESB (and therefore standard error) of a specific audience estimate;
- Translation of model variables into a form that could be applied to all radio audience estimates by any *Radio Market Report* user.

The *Replication II* study, which was based on 19 Markets, was later validated

Reliability of Arbitron Estimates

by the MRC using nine additional Markets. The purpose of the validation study was to verify that the replication methodology could consistently predict standard errors to within very narrow tolerances. Special analyses were also conducted to determine how well the model predicted standard errors in extreme situations (high-turnover station, low-turnover station, high-power station, low-power station, etc.). The methodology was found to meet the rigorous validation tests conducted by the MRC. The report *Arbitron Replication II: A Study of the Reliability of Radio Ratings* may be viewed online at www.arbitron.com.

PPM Replication Study

In the Fall and Winter of 2005-2006, Arbitron conducted a replication study of PPM radio ratings estimates in the Houston-Galveston Metro. The PPM Replication study was similar in concept and design to the *Replication II* study.

As in *Replication II*, jackknife replication methodology was used to estimate the reliability of PPM ratings estimates. The key findings from the *Replication II* study—that multiple observations per respondent, number of respondents per household, and weighting all affect reliability—were combined with the empirical PPM reliability data from Houston-Galveston in forming a model to deliver reliability estimates to users. This model is similar in nature to the *Replication II* model.

Arbitron plans to periodically conduct replication studies of PPM ratings estimates and update the parameters of the reliability model.

Determining the Standard Error of an Arbitron Estimate

Each Arbitron *Radio Market Report*/Arbitron eBook contains two tables (Table A and Table B) that provide the information necessary to estimate the standard error of an Arbitron estimate.

Table A

Table A is the numerator of the standard error formula. It contains the square root of the quantity $(p \cdot q)$ for each theoretical

rating from 0.1 to 50.0. Because Table A values depend only on the value of the specific ratings, they are constant for all Markets and surveys. The table stops at a rating of 50.0 because $(p \cdot q)$ for a particular rating is the same as $(p \cdot q)$ for 100 minus the rating. For example: $(p \cdot q)$ for a rating of 57.2 ($57.2 \cdot 42.8$) is the same as $(p \cdot q)$ for a rating of 42.8 ($42.8 \cdot 57.2$).

Table B

Table B is the denominator of the standard error formula. It contains the square root of the ESB for each estimate in the "Listener Estimates" section of the *Radio Market Report* by demographic and daypart and is custom-derived for each Market and survey.

ESB values take into account:

- Variable factors (such as actual in-tab for the demographic group and the amount of weighting that was applied to discrete demographics); and
- Constant factors (such as the number of quarter-hours in the particular estimate and the effect of multiple persons per household on the audience estimate).

The standard error for a specific rating is obtained by dividing the Table A value by the Table B value:

Example: Suppose WAAA achieves an AQH rating of 6.9 among Persons 25-54 in the Mon-Fri 6AM-10AM daypart. The reliability of the estimate would be assessed as follows:

- Table A value for rating of 6.9 is 25.35
- Table B value for Persons 25-54 Mon-Fri 6AM-10AM is 69.68
- One standard error (1.0 se) = $25.35/69.68 = 0.36$ (rounds to 0.4)
- 68 percent confidence interval (1.0 se) = $6.9 \pm 0.4 = 6.5$ to 7.3

The rating \pm (1.64 x the standard error) yields a 90% confidence interval.

In the above example, $6.9 \pm (1.64 \times 0.4)$ yields a confidence interval of 6.3 to 7.5. Interpretation: the user can be 90% confident that a census of all Persons 25-54 would yield a Mon-Fri 6AM-10AM AQH rating between 6.3 and 7.5.

The rating \pm (1.96 x the standard error) yields a 95% confidence interval (compute as above), and the rating \pm (2.58 x the standard error) yields a 99% confidence interval (compute as above).

Additional information can be found following Table A and Table B in the applicable *Radio Market Report*/Arbitron eBook, and in the online standard error calculator available to subscribers at the Arbitron eBook Web site.

DMA Station Reporting

In each Spring and Fall survey, Arbitron reports DMA-level audience estimates in the each of the top 100 U.S. Radio Markets. In Markets where the Metro counties and non-Metro DMA counties are measured by Diaries, a station's DMA audience estimates are based upon Diaries. In Markets where the PPM-measured Metro and the DMA contain exactly the same counties, DMA audience estimates are based upon PPM. In Markets where the Metro converted to PPM measurement, DMA audience estimates are based upon a combination of Diaries and PPM (e.g., a Diary-PPM Combo DMA). This chapter will provide a broad overview of Arbitron reporting policy for stations in the DMA and elements of the policy unique to a Diary-PPM Combo DMA.

Stations Eligible to Be Reported in the DMA

Diary-Measured DMA

Stations eligible to be reported in a DMA in which both the Metro Counties and non-Metro DMA counties are measured by Diaries are those stations eligible to be reported in Diary-based Metro *Radio Market Reports*/Arbitron eBooks.

PPM-Measured DMA

Stations eligible to be reported in a DMA in which the Metro and DMA contain *exactly* the same counties or in a DMA where both the Metro counties and non-Metro DMA counties are measured by PPM are those eligible to be reported in PPM-based Metro *Radio Market Report*/Arbitron eBook.

Diary-PPM Combo DMA

Commercial and noncommercial AM and FM radio stations and Total Line Reporting combos are eligible to be reported in a Diary-PPM Combo DMA. Audience estimates for encoded stations will reflect the station's PPM-based Metro credit plus the station's Diary-based non-Metro DMA credit.

Digital stations are eligible for reporting in a Diary-PPM Combo DMA. Audience estimates reported for the station reflect the station's PPM-based credit only. For digital stations that are part of a TLR combo with an analog AM or FM station, the digital partner's contribution to the

combo is the station's PPM-based listening only.

Analog LPTV stations that operate as radio stations may be reported in a Diary-PPM Combo DMA. Audience estimates reported for the station may include either the station's PPM-based listening plus the station's Diary-based listening or the station's PPM-based listening only; in other circumstances, the station's estimates may be based solely on Diary-based credit. The applicable reporting policy may vary from DMA to DMA, may be contingent upon the presence of an embedded Diary-measured Metro in the DMA, and/or other factors.

As Arbitron reports audience estimates for encoded radio stations in PPM-based services and reports, Diary-PPM Combo DMA audience estimates for stations that were not encoded for the whole three-month interval that corresponds to a Diary survey reflect the station's Diary-based listening in periods when the station was not encoded.

Minimum Reporting Standards

Audience estimates for eligible stations and combos (as described above) will be reported if the station or combo has met the following minimum reporting standards in the DMA among Persons 12+, during the Monday-Sunday 6AM-Midnight daypart for the applicable 12-week report period:

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

Determining Audience Estimates in a Diary-PPM Combo DMA

A station's Diary-PPM combo AQH (00) estimate is determined 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.

A station's Diary-PPM combo AQH Rating estimate is determined by rounding the station's DMA AQH(00) to hundreds and then dividing by the DMA's

P12+ population (also rounded to hundreds).

A station's Diary-PPM combo Cume (00) estimate is determined by summing the station's unrounded Diary-based Cume Persons estimate and the station's Meter-based unrounded Average Weekly Cume Persons estimate, and rounding to hundreds.

A station's Diary-PPM combo Cume Rating estimate is determined by rounding the station's DMA-level Cume estimate to hundreds and dividing by the DMA's 12+ population (as determined by the sum of applicable respondent weights rounded to the nearest hundred). Cume Rating estimates are rounded to one decimal place.

A Diary-PPM Combo DMA's totals represent the sum of all listening credited via Diary and PPM to stations that met minimum reporting standards, stations that did not meet minimum reporting standards, radio stations that were not eligible for reporting in Diary-surveyed areas, and Diary-reported listening that was not credited to any specific station.

Note: DMA-level audience estimates are based on respondents 12 years of age and older; information collected by Metro Panelists aged 6-11 is excluded from a station's Diary-PPM combo DMA audience estimates.

Reliability of Diary-PPM Combo DMA Audience Estimates

A station's Diary-PPM 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 Audience Estimates" of this *Local Syndicated Services Description of Methodology* for additional information. (Note: that Table B values for a Diary-PPM Combo DMA are those published for the DMA in Arbitron's Nationwide service; Table B values for the Metro may not be applicable.)

MRC Accreditation

Diary DMA audience estimates are accredited by the Media Rating Council. As of this writing, Arbitron plans to seek MRC-accreditation for Diary-PPM Combo DMA audience estimates.

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, each of which includes a page(s) for each of the state's counties that lists radio station estimates in that county and clarifies whether Arbitron measured the county via Diaries or PPM. Audience estimates are reported 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' that allows the user of the data to create and print custom reports based on *County Coverage* data.

General Methodology

As the *County Coverage* sample is information ported from Arbitron's local currency syndicated services, the general methodology described throughout this *Local Syndicated Services Description of Methodology* is latent in *County Coverage*. This chapter describes elements of the *County Coverage* methodology that are unique to the report. Should any information in this chapter contradict or conflict with any provision of the Special Notices section of the 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' 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.'

In Diary-measured counties, the fieldwork year is an aggregate of all surveys fielded in that particular county during the calendar year. Counties are surveyed either four times per year 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 that correspond to the fieldwork 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 county's *County Coverage* fieldwork year is abbreviated, and encompasses *either* the Diary surveys fielded in the county *or* the aggregate of PPM measurement days fielded, whichever was in place for the majority of the calendar year.

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 the case, additional sample may be placed. Should a county fall short of its minimum, Arbitron will combine (e.g., 'cluster') the county with an adjacent county within the same state and time zone measured via the same instrument. Arbitron weights clustered counties and reports audience estimates for them as if the cluster were a single county. Arbitron does not, however, cluster counties 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, the average weight for the county is compared 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

Arbitron Radio County Coverage

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 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.)

Modeled PPM Media Days

During the processing of *County Coverage* data, Arbitron imputes the final credited results of PPM Media days in which the Panelist was in-tabulation to PPM Media Days in which the Panelist was not in-tabulation. Imputation of final credit results is 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 will provide information related to the number of Modeled PPM Media Days in a particular report via the designated area of the licensed user's my.arbitron.com page. Users of Arbitron data should be mindful that the modeling of PPM Media days is not an element of Arbitron's *Radio Market Report*/Arbitron eBook service.

Sample Weighting

The *County Coverage* service uses a cell weighting methodology that is materially different from the iterative marginal weighting methodology used in the preparation of estimates released in the *Radio Market Report*/Arbitron eBook.

In *County Coverage*'s cell weighting methodology, each In-Tab Diary or PPM Panelist-week within the county or county cluster is assigned a weight. In Diary-measured counties, this weight is calculated as the population for the age/sex cell divided by the number of that cell's In-Tab respondents. In PPM-measured counties, this weight is calculated as the population for the age/sex cell divided by the number of Unique Weekly Qualified in-tab for that

age/sex cell adjusted for the number of weeks each Panelist was in-tab.

Ethnicity is a weighting variable for all counties that are located in an ethnically controlled Metro that qualified for the ethnic control in each survey/report period of the fieldwork year.

For weighting purposes, Arbitron uses the county's population estimates for the Fall survey/Oct-Nov-Dec report periods. For split-county population estimates, whole county populations are allocated to the respective county 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 1-52.

Minimum Reporting Standard

The term 'minimum reporting standard' or 'MRS' refers to the criteria Arbitron uses to determine stations that qualify for reporting in a particular service or report. 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 for Arbitron's currency local service and the total number of In-Tab respondents in 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

Stations eligible for reporting in *County Coverage* include analog AM and FM radio stations, HD-primary stations, digital stations that are included in a Total Line Reporting combo with an AM or FM radio station, and select analog LPTV Channel 6 stations that operate as radio stations. To be eligible for reporting, the station must engage in systematic regular commercial broadcasting pursuant to the authority of the Federal Communications Commission (FCC) or other appropriate governmental agency.

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 could not be credited to any specific station, and credit assigned to stations that were removed from the report.

Arbitron Radio County Coverage

Total Line Reporting

In Arbitron's local services, stations that are 100% simulcast, including all programming and commercials, for the three-month interval that directly corresponds to a Diary survey may request 'Total Line Reporting.' Audience estimates for stations that request Total Line Reporting are reported via a total line that combines the estimated audience of all stations in the combo. The total line for the combo is labeled with the call letters of one station in the combo (the "primary" station), which is designated in advance by the combo. Audience estimates for stations that request Total Line Reporting are reported under the combo's primary call letters in all Arbitron services and reports.

The *County Coverage* data processing system applies a station's Fall survey Total Line Reporting status to data collected during the whole of the fieldwork year. This approach affects the way in which audience estimates are reported for combos and stations, particularly those that do not request Total Line Reporting for each quarter of the fieldwork year.

In circumstances where all of the stations in the combo requested Total Line Reporting for all four quarters of the fieldwork year, the combo's *County Coverage* estimates reflect listening credited to the primary station plus listening credited to the partner station(s) during the whole of the fieldwork year.

In circumstances where the combo stations did not request Total Line Reporting for the whole of the fieldwork year, the primary station's *County Coverage* estimates reflect listening credited to the primary station for the whole of the fieldwork year *plus* listening credited to partner stations during surveys and reports where the combo requested Total Line Reporting.

In circumstances where a combo's Total Line Reporting relationship ends prior to the Fall survey of the fieldwork year, audience estimates published for the combo's partner station will reflect only the listening credited to the station while it was *not* a part of the combo. (Listening credited to the station while it was a part of the combo is reported in estimates

published for the combo's primary station for the applicable surveys/reports.)

In circumstances where a Total Line Reporting relationship *begins* during the course of a fieldwork year and is maintained through the Fall survey of the fieldwork year, listening credited to the partner station during surveys/reports where the station did not request Total Line Reporting is included in the audience estimate reported for "Others."

Station Line-Up Adjustment

Occasionally, Arbitron removes stations from the *County Coverage* report that have met the applicable minimum reporting standard. Generally, stations removed from the line-up include those for whom it is illogical or unreasonable to report estimates in that particular report. Examples of stations that may be removed from the line-up include stations that have no signal coverage in the county or state, stations home to other states that met minimum reporting standards due to respondent travel, or stations that received credit exclusively due to the application of Arbitron edit procedures. When performing the analyses used to determine *County Coverage* line-up adjustments, Arbitron may use a variety of resources including listening data from previous fieldwork years, information on file with the FCC, information provided by data vendors and other sources. Upon removal of the station from the line-up, listening credited to the station is included in the audience estimates reported for "Others."

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 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 data and listening estimates, and/or any Arbitron report(s) and/or services whenever, in its judgment, insufficient data are 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 2003. For additional information on what MRC accreditation means, please see Chapter One of this *Local Syndicated Services Description of Methodology*.

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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or promotion must identify Arbitron as the 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

ARBITRON MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS, CONCERNING: DATA GATHERED OR OBTAINED BY ARBITRON FROM ANY SOURCE; THE PRESENT OR FUTURE METHODOLOGY EMPLOYED BY ARBITRON IN PRODUCING ARBITRON DATA, ESTIMATES, REPORTS AND/OR SOFTWARE PROGRAMS; AND/OR THE ARBITRON DATA, ESTIMATES, REPORTS AND/OR SOFTWARE PROGRAMS PROVIDED BY THIS SERVICE. ALL ARBITRON DATA, ESTIMATES, REPORTS AND/OR OTHER ASPECTS OF THIS SERVICE REPRESENT ONLY THE OPINION OF ARBITRON, AND RELIANCE THEREON AND USE THEREOF SHALL BE AT SUBSCRIBER'S OWN RISK. ALL SOFTWARE PROGRAMS ARE PROVIDED ON AN "AS IS-WHERE IS" BASIS AND RELIANCE THEREON AND USE THEREOF SHALL BE AT SUBSCRIBER'S OWN RISK. IN NO EVENT SHALL ARBITRON BE LIABLE FOR THE FAILURE OF ANY THIRD PARTY TO PROVIDE ANY DATA OR SERVICES IN CONNECTION WITH THE DATA, REPORTS, AND/OR SOFTWARE LICENSED BY ARBITRON.

Reservation of Rights

Arbitron reserves the right to exercise its judgment in modifying, waiving or suspending any policy, procedure or element of 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 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. In select Markets, the sample frame for Arbitron's Diary surveys includes households with cellular telephone service that do not also have landline telephone service (e.g., cell-phone-only households). A household's cell-phone-only status can be based upon the household's responses to a short survey mailed to the household that is used by Arbitron to determine the household's telephone usage status. Steps are taken to

Restrictions on Use of Reports and Limitations

exclude the addresses of households with landline telephone service, known commercial establishments, and destroyed dwellings from the list of addresses from which addresses for the telephone usage mailing are selected. All calls placed to cellular telephone numbers are done in accord with the guidelines of the Telephone Consumer Protection Act of 1991 (TCPA), and other applicable laws; as such, Arbitron's address-based cellular telephone sample frame reflects the limitations inherent in the TCPA. Persons not included in the sample may have media habits that differ from those persons included in the sample.

- c. 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 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.
- d. 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.
- e. 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.
- f. 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.
- g. Non-responding Persons may have listening habits that differ from those of respondents.
- h. Non-responding Persons and other limitations in the original designated sample prevent the In-Tab sample from being a perfect probability sample.
- i. 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.
- j. 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.
- k. 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.
- l. 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

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- 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.
- m. 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 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.
 - n. 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.
 - o. 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.
 - p. 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.
 - q. 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.
 - r. 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).
 - s. 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.
 - t. The data upon which Arbitron has based its In-Tab sample weighting, including racial or ethnic identification, may not be precise.
 - u. Defects and limitations found in data supplied by others are inherent in Arbitron estimates based thereon.
 - v. Data analysis, preprocessing preparation or ascription of data may affect media exposure data from being modified or excluded from the In-Tab sample.
 - w. 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.
 - x. 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.
 - y. 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.
 - z. 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

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broader dayparts and/or demographic groups.

- aa.** 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.
- bb.** 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.
- cc.** 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.
- dd.** 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 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.
- ee.** 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.
- ff.** 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.
- gg.** Due to methodological considerations in non-embedded condensed Markets, Maximi\$er and Media 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.

Glossary of Selected Terms

The following Glossary of Selected Terms provides formal definition of terminology for key terms in Arbitron's Diary surveys, PPM Panels, local services, and national services. Specific terms may not apply to a particular service or report. Terms that apply exclusively to a single Arbitron service note that service in parentheses. Definitions for terms that vary by service indicate the service in the Glossary entry header.

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.

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.

CBET (Critical Band Encoding Technology): (PPM) A sequence of uniquely timed sound patterns that are detected by a Panelist's Meter.

"Cell-Phone-Only" Household: A household with cellular telephone service that does not also have landline telephone service.

Compliance Rate: (PPM) The percentage of Panelists eligible to be included in the In-Tab sample.

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 projecting and estimating audience estimates to the population. The daily

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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 only 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.

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.

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.

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.

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 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

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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: The percentage of Panelists who wear or carry their Meters for a time sufficient to be in-tab for a given day.

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) Indicates the time when the Meter detects and stores a CBET code.

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.

Multiple-Instrument DMA: An Arbitron measured DMA in which Metro sampling units are measured via Meters and non-Metro sampling units are measured by Diaries.

Network Affiliation: An agreement between a radio station and a network in which the station agrees to broadcast

network commercials and/or network programming of various types.

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 ascertainment.

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.

Panel Relations Team: (PPM) Arbitron associates who train new Panelists, monitor Panelist compliance, and coach Panelists to wear or carry their Meters from the time Panelists rise until the time Panelists retire each day.

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.")

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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.")

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.

Psychoacoustic Masking: The process through which Arbitron CBET codes are inserted into existing audio such that the audible broadcast audio "masks" the CBET code from being heard by the human ear.

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."

Reliability: The extent to which a sample result reproduces the same result that would be obtained by attempting a complete census using the same methodological standards and data collection procedures as were used with the sample. The degree of the reliability of estimates based on probability samples is usually expressed in terms of standard error, or the error around the estimate. All things being equal, the smaller the standard error the more reliable the estimate.

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. Should the household agree to this second invitation, a new set of Diaries will be sent to the household.

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

Self-Mailer: A document that may be sealed or closed but does not require an envelope to be mailed.

Share: (See "Average Quarter-Hour Share.")

Single-Instrument DMA: An Arbitron measured DMA in which Metro sampling units and non-Metro sampling units are both measured by Diaries.

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): A package sent to radio stations that contains 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.

Station/Media Outlet: In the context of Arbitron's *Radio Market Report*/Arbitron eBook, refers to analog and digital AM stations, analog and digital FM stations, HD-multicast stations, the internet streams of AM, FM, HD stations, satellite radio channels, and other full-time, government-licensed stations, the audio portion of which is 100 percent simulcast upon a frequency that is receivable on an AM/FM radio.

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.

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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).

Unencoded Interval: Time period(s) of five or more consecutive minutes during a quarter-hour within a report period for which a station listed in an Arbitron *Radio Market Report*/Arbitron eBook was not encoded. Audience estimates will not be adjusted for unencoded intervals.

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 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 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 (e.g. cell-phone-only or landline).

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
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

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