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Arbitron Radio

# Description of PPM Methodology

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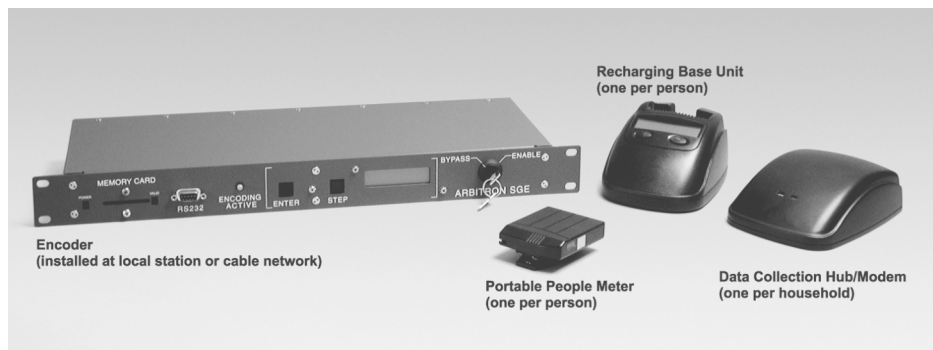
## Houston-Galveston

Radio Market Reports

Updated March 2007

# Arbitron PPM Methodology Overview

## Houston-Galveston Portable People Meter Service



### Introduction

This document summarizes the major research methods, technology functions, data processing procedures, crediting rules and data reporting plans for the PPM service in Houston-Galveston. All descriptions contained herein are current as of March 1, 2007, but are subject to change at any time.

## 1. Overview of the Portable People Meter Audience Measurement System

The Portable People Meter™ (PPM™) system measures panelist exposures to the audio content of encoded local radio and television stations and encoded cable networks available in the Houston-Galveston Designated Market Area (DMA®). The measured sample is a representative panel of persons age six and older residing in private residential households. Media exposure is measured both at home and out of home for all encoded sources. Media exposures are also captured when consumed “live” at the time of the original airing or time-shifted through the use of digital video recorders, VCRs and other recording/playback devices. Panelists’ media exposures are collected electronically and automatically by a small portable device (the Portable People Meter), which is worn or carried by panelists throughout the day.

Results from the measured panel are projected to the total specified survey population in Houston-Galveston in the form of Average Quarter-Hour (AQH)

ratings and shares, Cume ratings and Time Spent Listening (TSL). The standard ratings reporting period is monthly. Participating media outlets are those that encode their signals by installing the Critical Band Encoding Technology (CBET) encoders provided by Arbitron. Note that ratings information can only be provided for encoded media outlets.

## 2. Media Encoding

Radio and TV outlets, plus cable networks, that are home to the Houston DMA have been invited to encode. Arbitron provides two encoders and in-station monitoring equipment at no cost to all outlets signing an encoding agreement.

**Importance of Media Encoding**  
THE PPM SYSTEM, AS CURRENTLY DEPLOYED, CAN ONLY MEASURE CONSUMERS' EXPOSURES TO ENCODED MEDIA OUTLETS. ARBITRON ENCOURAGES ALL MEDIA OUTLETS IN A MARKET TO ENCODE, WHETHER OR NOT THEY ELECT TO SUBSCRIBE TO THE PPM SERVICE. HOWEVER, TO THE EXTENT THAT AN OUTLET ELECTS NOT TO ENCODE, THIS WILL RESULT IN NONMEASUREMENT OF THAT OUTLET FOR PPM RATINGS PURPOSES AND MAY AFFECT THE FUNCTIONING OF CERTAIN AUTOMATED EDIT RULES IN THE PPM SYSTEM.

When an encoder is installed and activated, Arbitron verifies that the equipment is functioning properly by analyzing samples of encoded audio from each encoder installed at the station. Once the initial installation is complete, ongoing quality assurance measures are used to ensure the continued proper operation of the encoders. A complete CBET signal is broadcast on each encoded channel or station approximately every five seconds, assuming continuous audio.

### How Encoding Works

The Arbitron CBET encoders insert a unique code into the audio programming of each outlet at the time of broadcast. The code is inserted by adding very small amounts of audio energy to the program in a manner that is masked by the original audio. This process is known as “psychoacoustic masking.” Each code uniquely identifies an individual broadcast station or cable network. (Note that cable channels are currently encoded at the network level, not the local interconnect level. This means that locally inserted cable content and spots are not being encoded for the service. However, the PPM lead-in edit rules, described later in this document, account for most such encoding “gaps.”)

Each complete code also provides a broadcast time indicator that is updated once per minute. By comparing the broadcast time to the time the meter detected the code, the PPM reporting system can provide estimates of time-shifted listening.

PPM codes are repeated roughly every five seconds given that there is continuous program audio sufficient to mask the code. This means that silent periods in a program may cause code insertion to take longer than five seconds. However, the data processing system aggregates and reports code information in 30-second increments called “segments.” This provides an important level of redundancy in the code-detection process, since codes can be repeated up to six times in each segment or up to 12 times in each minute. Only one usable code is required to identify and credit the media source. This built-in redundancy is important

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because it prevents bias in the detection and reporting of different kinds of audio content, such as music or talk programming.

## 2.1 Encoder Monitoring

Arbitron provides each outlet with an in-studio monitor. These monitors can be linked to an alarm system that can be customized to meet the specific needs of local engineers (e.g., in-studio alarm, cell phone or Internet notification, etc.). The in-studio monitors permit outlets to verify their encoding status directly at all times.

## 3. The PPM Panel

### 3.1 Sample Design

The sample universe for the Houston panel consists of persons age six and older residing in the Houston DMA.

The installed sample target for the Houston PPM panel is 2,000 persons age six and older. This Persons target yields an installed panel size of about 740 households. In line with the population distribution within the DMA, roughly 95 percent of the total sample fall within the Arbitron Radio Metro area.

The primary sampling unit is a household. All eligible persons age six and older living full time within the sampled household are included.

The sample frame is an address list covering virtually all residential households in the DMA. The 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 geography (e.g., county), race, ethnicity, median age of householder and employment status prior to sample selection.

### Selection of “Basics” and “Alternates”

Addresses are selected at random from the stratified frame using the systematic random sampling procedure. The required sampling interval (1:n) is calculated, and a random starting point is selected within the first interval. Each “nth” address is then selected to fulfill the required starting sample size. This first

group of selected addresses serves as the pre-designated “Basic” sample. Each Basic address constitutes a random geographic sampling point.

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 PPM panel (e.g., business, media affiliated, demolished address). 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 include cable/satellite status (with/without cable or satellite service); presence of children (with/without any child under age 18); and/or employment status (with/without any full-time-employed adults in the household). Alternate households must match the Basic on two of these criteria, as assigned in advance by Arbitron’s Sampling department.

Arbitron makes extensive efforts to recruit the Basic household in each sampling point using mail, telephone and in-person methods, as described below. Alternates are recruited only after all required steps to recruit or retain the Basic address in each sampling point have been exhausted.

### 3.2 Recruitment

Recruitment is a multistep process that employs multiple modes of contact and incentives to optimize cooperation. Throughout the entire recruitment process, anytime there is an address discrepancy, eligibility question or other problem that could affect the integrity of the sample design, Arbitron’s Sampling department is contacted to resolve the issue.

### Sample Prep

Two months prior to recruitment, Arbitron mails Basic households the sample prep questionnaire with a cash incentive, as well as a promised incentive for completion. The one-page questionnaire contains questions about media usage and asks for contact information, including phone number.

### Telephone Recruitment Calls

We first attempt to recruit by telephone all Basic households for which we have a phone number, either from the questionnaire or provided by the vendor. Every household that returns the sample prep questionnaire and includes their telephone number, as well as those that did not but have phone numbers provided by our sample vendor, is mailed a recruitment brochure with a cash incentive.

Prerecruitment calls begin when recruitment brochures are mailed to the households. The purpose of prerecruitment calling is to make contact with households in an effort to alert them that a recruitment brochure and money were mailed to their homes. The prerecruitment call allows us an opportunity to secure a commitment from residents to look for our mailing, and to notify residents that we will recontact them via telephone in a few days.

Shortly after the first prerecruitment telephone calls are made, Arbitron telephone recruiters conduct recruitment telephone calls to make contact with Basic households with phone numbers in order to: (a) verify addresses provided by the vendor, (b) secure a strong commitment on behalf of all eligible household members to wear the PPM meters, and (c) arrange for the delivery of the equipment.

### Field Recruitment

Field recruitment is conducted in person by Arbitron membership representatives. They visit the homes of: (a) Basic households without phone number matches, (b) Basic households that were called during telephone recruitment but did not agree to participate or were never reached, and (c) qualifying Alternate

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households from sampling points where the Basic refuses to participate.

When a Basic household refuses to participate after being visited in person, a matching Alternate is recruited and installed. At that same time, a conversion letter is sent to the Basic household. If the Basic household decides to join the panel, then the Alternate is deinstalled. After full panel installation, refusing Basic households are periodically recontacted. If the Basic household agrees to join the panel at this time, the Alternate household is deinstalled.

### 3.3 Incentives

Arbitron provides a standard incentive package to households participating in the panel. All panelist incentives beginning with the installation stage are personal incentives (that is, provided to each panelist, not the household), including: (a) an installation premium, (b) a monthly base premium for each installed panelist, (c) bonuses for meeting weekly compliance goals, (d) weekly and weekend performance-based prize drawings, and (e) 90-day and annual retention bonuses. The primary focus of the incentives is to encourage households to join and then remain in the panel, and to encourage each panelist to keep the meter with them all day. When panelists wear or carry their meter, motion is detected by the meter. Panel members receive points good toward bonus incentives based on how long they wear the meter each day. This method is specifically designed to help panelists remember to undock and wear the meters every day. Arbitron provides clear written and verbal statements to panelists that there is absolutely no connection between their incentives and how much media they consume.

### Differential Survey Treatment

The Differential Survey Treatment (DST) is used for households that have at least one eligible member who is black or Spanish-dominant (i.e., speaks only or mostly Spanish when at home). Under the DST program, personal retention bonuses paid at the 90-day, one-year and two-year anniversary dates are 50 percent higher than the standard

amounts. The DST program is focused on retention rather than recruitment, because both black and Hispanic households have demonstrated above-average agree rates for PPM panels at the recruitment stage in numerous tests.

### 3.4 Panel Maintenance

The panel is maintained by Arbitron panel relations specialists by telephone, mail and/or e-mail, although membership representatives are available to provide in-field assistance when necessary. Because PPM data are received on a daily basis, panel relations specialists have the ability to closely monitor panelist compliance, rewarding good compliance or reacting quickly to poor compliance by providing coaching.

Sample characteristic updates are made when Arbitron becomes aware of a change in the household's composition or in a panelist's characteristics. All fully installed households are recontacted each quarter to confirm demographic characteristic data for every member of the household. All demographics except for gender, birth month/birth year and Hispanic origin/race are verified during this update. On the one-year anniversary of the households' installation, households are recontacted to re-collect all of the demographic characteristics of each member of the household. In addition, panelists' ages are automatically updated during their birth month.

### Sample Turnover/Deinstallation

An installed household is kept in the panel for a maximum of two years. A household may leave sooner than two years due to: (a) noncompliance, (b) expiration of the sampling point (individual sample replicates have a life span of 2.5 years), (c) a change in the household's characteristics that makes it ineligible, (d) involuntary deinstallation of an Alternate household because of a Basic conversion or because a Basic moves and a new family moves in with characteristics that no longer match the Alternate and (e) deinstallation requested by the household.

### 3.5 Special Procedures for Hispanic Sample

Throughout the panel recruitment and panel management process, Arbitron employs enhanced sampling procedures and appropriate bilingual written materials and staffing levels to ensure effective sampling of and communication with Hispanic and Spanish-speaking persons in the survey population. The following list describes these special procedures.

- Sample frame stratified by Hispanic penetration: Addresses included in the starting sample frame are stratified based on their Census block's percentage of Hispanic households.
- Bilingual prerecruitment materials: Spanish-English materials are mailed to sample addresses in "high-density" Census blocks (25 percent Hispanic and higher).
- Bilingual telephone and in-person recruiters are used as first contacts in high-density Hispanic Census blocks.
- Bilingual telephone and in-person recruiters are available to be deployed for all Spanish-speaking households in areas that are not high-density Hispanic areas.
- At recruitment, race/ethnicity and language use at home are collected for each person in the household.
- Bilingual recruitment and installation materials are sent to all households with one or more Hispanic persons.
- Bilingual panel relations specialists are assigned to any households with one or more Spanish-dominant Hispanic persons.
- Persons in households with at least one Spanish-dominant Hispanic person receive higher anniversary bonuses (90-day, one-year and two-year bonuses are increased by 50 percent over the standard incentive).
- Audience estimates are to be weighted for personal (not household) race/ethnicity.
- Audience estimates are weighted for personal Spanish-language usage.

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## 3.6 Sample Performance Indicator (SPI)

Sample performance is measured using a Sample Performance Indicator, which is calculated as defined below. The SPI is tracked at both the Household and Person levels and is reported on an average day for each reporting month.

### Household SPI

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 day, a household must successfully report technically "fault-free" data for at least one panel member in that household for the day. At the household collection stage, there is no compliance-based standard for reporting.

### Persons SPI

Persons SPI is determined by dividing the number of In-Tab Basic Persons by the total number of estimated Basic Persons in Usable Basic Households.

*(Note: To estimate the number of Basic persons in eligible sampling points, we assume that, on average, there are the same number of persons in refusing/noncontacted Basic households as in agreeing households.)*

To qualify as in-tab, a person must have fault-free media and motion data reported for a given day **and** must qualify based on their compliance with wearing/carrying their PPM on that day. The minimum in-tab qualification rules for motion-based compliance are as follows:

Age Demo	Minimum Motion Compliance Standard
Adults 18+	8 Hous per Day
Children 6-17	5 Hours per Day

Panelists (or households) are also counted as out-of-tab and are excluded from PPM audience estimates for the following reasons: (a) data integrity issues (such as evidence of media affiliation or media contact with a panelist), (b) broken/lost equipment,

(c) panelist reported being away from home, (d) equipment not properly communicating, (e) other equipment issues, and (f) incomplete data issues.

### Ineligible Household Member

There are several reasons why a full-time member of a household in the panel would not be metered (assigned a PPM) due to ineligibility, including but not necessarily limited to the following: (a) under age six, (b) at another location more than four nights per week, (c) child with parents who have shared custody, and (d) physically or mentally unable to participate.

## 4. Equipment Used by Panelists

### 4.1 The Portable People Meter

A PPM is worn or carried by each panelist. This meter is always "checking" for codes, which are inserted into broadcast within the audio of a radio or television station by an Arbitron encoder. The code conveys the station's unique identification, a time stamp of the broadcast (inserted by the encoder at the station) and a time of detection. The meter stores detected codes at 30-second increments.

If the program source is audible, tests have shown that the PPM reliably detects the code. If the program source is not audible—either due to distance, low volume or excessive background noise—the PPM is designed to not credit such instances as media exposure. Note that the PPM *does* measure radio listening using headphones. Headphone listening is measured using a special adapter provided to all panelists who, at installation, report having used a portable radio at least once in the past year.

The PPM has a green light, which is linked to a motion detector. The green light comes on when motion is detected, to let the panelist know that their compliance is being recorded. If no motion is detected after 20 minutes, the green light begins blinking to alert the panelist that the meter is no longer detecting motion. After 10 minutes of blinking, the green light goes out. The

meter stores these motion data. The compliance instructions given to the panelist are: (a) undock upon rising, (b) keep the green light on, and (c) dock the meter when going to bed.

### 4.2 The Recharger

When the meter is docked into the recharger, data are extracted from the meter, the meter memory is cleared and the meter's battery is recharged. Based on the motion data, various messages thanking the panelists for their compliance or encouraging them to be more compliant are presented to the panelists using the recharger display. (At this time, new parameters or a new program may be loaded into the meter, as applicable.)

### 4.3 The Data Collection Hub/Modem

The data files extracted from the meter by the recharger are then sent to the data collection hub (collector) via the household electrical wiring. The collector is a data collection device connected both to the phone line and the household current. Data travel from each recharger in the household to the collector via the normal electrical current.

At a predefined time each day, the collector automatically places a telephone call to the Data Center to send the household's data to Arbitron.

### 4.4 Installation Procedures

The PPM system is a "plug-and-play" system that can easily be self-installed by most households. The collector requires connection to a standard power outlet and a telephone line. The recharger only requires connection to a power outlet; it communicates data to the collector over the standard electrical wires already in the household. No special wiring or installation is required, except for nontelephone homes, which require the addition of a phone line that Arbitron would provide.

For households recruited by phone, the equipment is shipped directly to the household using a common carrier, and the panel members handle installation themselves. For households recruited in person, the Arbitron membership

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representative installs the equipment at the time of the recruitment visit. In both cases, proper installation is immediately verified through a communication test to the host computer. If any problems are discovered, the household is contacted immediately for troubleshooting.

## 5. Data Processing

### 5.1 Editing Rules

#### **Determining In-Tab**

To be counted in the in-tab sample for any given day, panelists must meet a minimum compliance standard based on how long they wore or carried the meter on that day. For Adults 18+, the minimum is eight hours; for Children 6-17, the minimum is five hours. In addition, the meter data record for each person must meet the "fault-free" status specified as part of the standard qualification edit procedure.

#### **Code Usability**

All media codes reported by the PPM must pass standard usability edits based on code completeness and degree of agreement with valid assigned media codes. A code that is not an exact match to an encoding outlet is only considered usable if it can be attributed to a media outlet. A nonmatching code is considered usable if it is detected within 15 minutes of a code that it matches on two out of three characters and on media type, or it is within five minutes of a code that it matches on media type. If the nonmatching code does not meet either of these criteria, it is deleted from further processing.

#### **Lead-In Edits**

Because the PPM works by detecting embedded audio codes in media programs, there is always a slight lag time between when the media exposure actually began and when the meter detected and recorded the code. The minimum lag time is about five seconds, as this is the time required to transmit or read a code, but the actual lag time varies depending on a number of factors, such as volume level of the program, program content and presence of background noises that might interfere

with code detection (e.g., a fire siren, vacuum cleaner or barking dog).

To account for this code-detection lag time, as well as possible interruptions in code detection during continuous media exposure events, lead-in duration edits are applied whenever a media code segment is preceded by a blank time segment. For television codes, the maximum lead-in edit is 30 seconds (the duration of one code segment). For radio, the maximum lead-in edit is 60 seconds (up to two code segments). The longer lead-in adjustment for radio is due to research findings indicating that code interruptions are roughly twice as common for radio as for TV. This is believed to be due to the more complex audio environment in which radio is consumed as compared to TV (such as more listening time in car, at work, etc.).

#### **Determining Time-Shifted Exposure**

Time-shifting is determined by comparing the broadcast time of a code detection (based upon the encoder time, which has a one-minute resolution) to the exposure time of the detection (based upon the meter time, which is resolved to a 30-second increment). If the broadcast time is three minutes or more earlier than the exposure time, the exposure is considered time-shifted and credited to the broadcast time.

The validity of each individual broadcast time detection is confirmed by checking the broadcast times of nearby codes to the same media outlet for consistency. If a broadcast time is not consistent with nearby detections, it is deleted from further processing. If an individual 30-second media code detection does not have an associated valid broadcast time, the closest detection within three minutes to the same outlet is used to determine the broadcast time; otherwise, the detection is credited to the exposure time.

#### **Docked-Meter Edit**

As noted above, the PPM listens for and records media codes at all times, whether in or out of the recharging docking station. Because people do use radio and TV while in bed, and thus while their meters are docked, it is important that the meter continue to credit exposures for some period of time after

being docked and before being undocked. The docked-meter edit allows continued credit after the meter is docked for the last time each day. Crediting continues for up to one hour of media exposure for both radio and TV, after which time further media codes are not credited. The goal is to avoid crediting extended periods of overnight radio or TV code detections that occur while panel members are asleep. Crediting for docked meters then resumes at 4AM, the start of the next media day. This allows early-morning use of radio and TV to be captured before the meter is undocked for the day.

### 5.2 Crediting Rules

After the PPM media code data have been processed through Arbitron edit rules, they are processed to determine applicable audience credit. Media exposures may be credited at the clock-minute and the quarter-hour levels for purposes of programming analyses. Media ratings and projections use quarter-hour crediting only.

#### **Minute Crediting**

While the PPM can detect media codes multiple times each minute, the codes are converted or resolved in the data processing system so that a media outlet is credited only once for each 30-second interval, or "segment." When a media outlet is credited with at least one segment in a clock minute, it receives credit for that clock minute. Start and stop times for detected radio and TV exposures are always credited at the whole-minute level. In other words, the whole clock minute represents the smallest degree of granularity or precision presently available in terms of reporting PPM-captured media exposure start and stop times.

#### **Quarter-Hour Crediting**

The PPM system deployed in Houston-Galveston uses the prevailing local market "five-minute rule" for crediting viewers to a media outlet for the purpose of determining Cume, Time Spent Listening and Average Quarter-Hour ratings. A person must be credited to the outlet for at least five minutes within a clock quarter-hour to be counted in the

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outlet's reach for that period. The minutes need not be contiguous.

## 6. Determining Audience Estimates

### 6.1 Sample Balancing (Weighting)

The weighting system used by Arbitron, sample balancing, is an iterative marginal weighting technique designed to compensate for disproportionate in-tab from specified marginal classes.

There are six sample balancing variables: (a) employment status for Persons 18+; (b) geography (individual county, county equivalent or county clusters); (c) sex/age (18 individual sex/age classes); (d) race/ethnicity (Black, Hispanic and Other); (e) dominant language for Hispanics (Spanish vs. English); and (f) presence of children in the household.

There are three types of weights computed: (a) preliminary daily or "overnights" (weights for the previous day's in-tab sample); (b) final daily (weights for a media day after allowing seven days for in-tab to be collected); and (c) final weekly (weights for the unified weekly sample).

### 6.2 Determining Cume Estimates

Cume Persons estimate represent the number of different (unduplicated) people within a specific target who are exposed to an outlet for at least five minutes in a quarter-hour within a specified time period during an average day. For the Houston PPM service, Cume Persons estimates are determined as follows:

$$\frac{\sum \text{Daily Weights Among Panelists with } \geq 1 \text{ QH to Target Outlet}}{\text{Number of Days in Report Period}}$$

*Cume Rating* for individual media outlets is computed by dividing the rounded Cume Persons estimate for the outlet by the population estimate for the desired demographic group (e.g., Adults 25-54), and then multiplying by 100.

### 6.3 Average Quarter-Hour (AQH) Estimates

Station AQH Persons estimates are the average number of persons exposed to a particular outlet for at least five minutes during a clock quarter-hour. For the Houston-Galveston PPM service, AQH Persons is determined as follows:

$$\frac{[\sum (\sum \text{Outlets QHs in Daypart} \times \text{Panelist Daily Weight})]}{(\text{Number of QHs in Daypart per Day} \times \text{Number of Days in Report Period})}$$

*AQH ratings* for individual outlets are determined by dividing the rounded AQH Persons estimate for the outlet by the population estimate for the desired demographic group (e.g., Adults 25-54), and then multiplying by 100.

## 7. Statistical Reliability

### 7.1 Sampling Error

Arbitron estimates are subject to the statistical variances (sampling error) associated with all surveys that use a sample of the universe and, additionally, to all of the factors described in "Special Notices" and Paragraph 8. Approximations of the sampling error for audience estimates can be developed by use of Tables A and B included with the monthly PPM Market Report. These tables were derived from an empirical study that employed "Jack-Knife Replication." Tables A and B produce estimates of sampling error at the one standard error (one sigma) level. However, users of this report should keep in mind that, due to the factors discussed in Paragraph 8, the reliability of Arbitron estimates, data and reports, and their statistical evaluators cannot be determined to any precise mathematical value or definition.

### 7.2 Effective Sample Bases (ESBs)

Estimates of the Effective Sample Base indicate the size of a simple random sample that would be required to provide the same degree of reliability as the in-tab sample actually used to produce the audience estimates in the monthly PPM Market Report. The statistical reliability of

such estimates depends on the ESB and only indirectly on the average daily number of meters tabulated. Statistical reliability is also affected by factors described in Paragraph 8.

Approximations of ESBs for audience estimates may be determined by squaring the values in Tables B of the PPM Market Report. The Arbitron formula for estimating ESBs is based upon an empirical study that employed "Jack-Knife Replication." This formula takes into account the differences in in-tab rates among sampling units, the individual sex-age categories and race/ethnic groups.

## 8. Estimates Reporting

### 8.1 Reporting Schedule (eBook)

Arbitron PPM Radio Market Reports (eBooks) are released monthly. Each report reflects a four-week survey period generally corresponding to a calendar month. In addition to the 12 four-week releases for January-December, a thirteenth four-week currency report will be issued each January; this "Holiday" release will report audience estimates for the period from roughly mid-December through mid-January. To complement the monthly reports, interim audience estimates that contain one week's worth of listening – PPM Weeklies – will be released each week of the monthly report period.

### 8.2 The PPM Analysis Tool

The PPM Analysis Tool software application is delivered directly to report users via CD. It provides desktop computer access to a wide range of standard and custom reports, as determined by the data users based on tabulations of respondent-level PPM data files. The PPM Analysis Tool will not provide listening estimates if the user-selected target demographic has fewer than 30 average daily in-tab persons for the selected report period. Additionally, Radio PPM Summary Data Sets will be sent to third-party processors that are licensed by Arbitron to then provide the data to clients through their own proprietary software programs.

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## 8.3 Minimum Reporting Standards (MRS)

An encoded station or combo is eligible to be listed in the Radio Market Report, if the station or combo has achieved an average Weekly Cume Rating of at least 0.495 and a Weekly AQH Rating of 0.05 among Metro Persons 6+, during the Monday-Sunday 6AM-Midnight daypart, for the applicable report period.

## 8.4 Total Line Reporting (TLR)

Stations that simulcast 100 percent of their broadcast hours throughout the report period, including commercials and PSAs, are eligible for Total Line Reporting. Audience estimates for stations that receive TLR are reported as a total line that combines the estimated audience of all stations in the combo. The total line is listed with the call letters of one station in the combo (the "primary" station), designated in advance by the combo. Estimates for individual stations in combos that receive TLR are not included in the lineup in any of Arbitron's reporting services.

## 8.5 Station Information

In order to ensure that stations are appropriately reported in Arbitron Radio Market Reports, Arbitron strives to collect and maintain current facility information for all commercial and noncommercial radio stations. This information is obtained from radio stations, the FCC and other appropriate sources.

The Station Information Packet (SIP) is Arbitron's primary vehicle for collecting and updating station information. The SIP is mailed to all licensed radio stations on a quarterly basis and contains the Station Information Form (see example), along with instructions and other useful information.

In addition, Arbitron encourages and will accept written updates to station information throughout the year. Because Arbitron's electronic measurement system receives and processes media exposure information from the panel on a daily basis, it is important for stations to report changes in the station's facility information to Arbitron in a timely fashion.

## 8.6 Broadcast Hours Adjustments

Audience estimates are not adjusted for intervals during which a station is off-air.

## 8.7 Technical Difficulties

No adjustments are made to audience estimates for periods of technical difficulty (including periods where a CBET code is not embedded in the station's broadcast signal). The notation of technical difficulties on the Special Notices page is only to assist report users in making their own evaluation of the reported audience estimates. Arbitron will accept information on technical difficulties through the last day of the report period.

## 9. Rating Distortion and Rating Bias

In accordance with MRC and industry guidelines, Arbitron provides the following information relating to Rating Distortion and Rating Bias to advise Arbitron clients about applicable policies and procedures, and to assist Report users in making evaluations of audience estimates reported by Arbitron. As a practical matter, a general description of Arbitron's guidelines cannot describe all possible station activities. *In order to avoid activities with Rating Distortion or Rating Bias potential, and to avoid possible citation, stations are advised to submit planned activities to Arbitron for a confidential Pre-Review.*

### 9.1 Rating Distortion

Arbitron will consider as Rating Distortion any station activity that Arbitron believes may: prompt the participation of survey participants unauthorized by Arbitron; result in the provision of false information to Arbitron; or through which the station has the potential to learn the identity of survey participants; gain access to, or influence over, any Arbitron PPM (except as explicitly authorized by Arbitron); or prompt the use of any Arbitron PPM or encoded signal for any purpose other than those intended by Arbitron.

Any station activity that Arbitron believes may adversely affect the integrity of the survey may be considered Rating

Distortion. Rating Distortion activities may take the form of: *Solicitation, Participation by Media-Affiliated Individuals, Unauthorized Use of Arbitron's Encoded Signal*, or any other activity that may result in the use of any PPM for any purposes other than those intended by Arbitron. The following categories and examples are illustrative only and are not all-inclusive:

*Solicitation* may take the form of a public or private appeal by, or on behalf of, a station to any PPM panelist to surrender control of his or her meter to a recipient unintended by Arbitron, or an appeal to any panelist to misrepresent information to Arbitron (whether or not the panelist responds to the appeal).

Examples of activities with this type of Rating Distortion potential would include:

- A request that PPM panelists surrender their meters for a number of hours to station personnel.
- A request that panelists misrepresent their household composition to Arbitron.
- An effort by a station to learn the identity of PPM panelists, even if the panelists remain unaware that the station has learned of their participation.

*Media Affiliation:* Participation as a PPM panelist by any radio station employee will constitute Rating Distortion by the station with which the individual is affiliated.

### *Unauthorized Use of Encoded Signal:*

The unauthorized use of Arbitron's encoded signal by, or on behalf of, a radio station will constitute Rating Distortion by the station engaging in the unauthorized use.

### 9.2 Rating Bias

Arbitron will consider as Rating Bias any announcement, statement or activity that may differentially prompt a particular station's listeners to participate in Arbitron's survey (relative to other stations' listeners), or differentially prompt PPM panelists who listen to a particular station to comply with Arbitron's instructions (relative to panelists who listen to other stations).



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Examples of activities with Rating Bias potential would include:

- Encouragement by, or on behalf of, a station to listeners to participate in Arbitron's survey.
- Messages to panelists by, or on behalf of, a station to carry their meters with them or download their listening information to Arbitron.
- Messages delivered by a radio station (in any medium) alerting listeners that Arbitron's survey is, or soon will be, in progress or emphasizing the importance of participation in radio ratings surveys.

Sourcing of previous survey information in the form of advertising that promotes a station's success in prior surveys, as permitted by contractual agreement with Arbitron, does not constitute Rating Bias under these guidelines. Note, however, that references to a station's performance in prior surveys in the context of pleas for survey participation by the station's listeners, or other appeals for support, are not protected under this guideline and may, in fact, be cited by Arbitron as activities with Rating Bias potential.

### 9.3 Rating Distortion/Rating Bias Violations

Arbitron may delist from its reports, computer media and other services the call letters and listener estimates of any station determined by Arbitron to have engaged in activities with Rating Distortion or Rating Bias potential. Rating Distortion and Rating Bias activities that Arbitron concludes do not warrant delisting may be noted by placement of a notice in Arbitron's reports, such as placement of a station's call letters and listener estimates out of alphabetical sequence below a special distinguishing line ("below-the-line" listing), or by any other means deemed appropriate by Arbitron.

### 9.4 General Information

General information with respect to Rating Distortion, Rating Bias and Media Affiliation:

- Employees of radio and broadcast television stations or networks, cable

television stations or networks, newspapers, magazines, or advertising agencies, and members of their households, are not eligible to participate in an Arbitron PPM survey. If a station employee discovers that a household member has participated—or has agreed to participate—in the survey, Arbitron should be notified immediately. Should a station attempt to contact or influence survey participants, Arbitron will take whatever measures are necessary, in Arbitron's opinion, to protect the integrity of its radio audience estimates.

- Sourcing of previous survey information in the form of advertising that promotes a station's success in prior surveys, as permitted by contractual agreement with Arbitron, does not constitute Rating Bias under these guidelines. Note, however, that references to a station's performance in prior surveys in the context of pleas for survey participation by the station's listeners, or other appeals for support, are not protected under this guideline and may, in fact, be cited by Arbitron as activities with Rating Bias or Rating Distortion potential
- Requests for Arbitron to conduct an inquiry into an activity by another station in the market should be 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 survey and should be addressed to: *Special Station Activities Committee, Arbitron Inc., 9705 Patuxent Woods Drive, Columbia, MD 21046-1572.*
- The initiation of an inquiry at any time is solely within the discretion of Arbitron.
- Arbitron will review activities conducted at any time (not just during a survey) for compliance with these guidelines if, in Arbitron's judgment, the activity has the potential to undermine the integrity or perceived integrity of the survey.
- The same activity could be subject to citation for two or more consecutive surveys, 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.
- Activities noted in Arbitron's reports may or may not have actually affected reported listening. Such an effect would be virtually impossible to prove or disprove and Arbitron makes no attempt to do so. Activities with Rating Distortion or Rating Bias potential are nonetheless inherently detrimental to the broadcast, advertising and audience measurement industries. The mere fact that such activities occurred may undermine confidence in audience estimates and constitutes sufficient reason to notify report users of their occurrence.

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

## 10. Other General Limitations

In addition to sources of possible error described elsewhere in this report, the user should be aware of the following limitations:

- a. The sample frame covers 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 nine 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

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sample selection. Persons not covered may have media habits that differ from those of persons included in the sample.

**b.** 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 for the panel, or at any time thereafter, or from other sources.

**c.** There may be instances where Arbitron instructions are not followed by the interviewer.

**d.** Nonresponding persons may have media habits that differ from those of respondents.

**e.** Nonresponding persons and other limitations in the original designated sample prevent the in-tab sample from being a perfect probability sample.

**f.** 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 media habits that differ from those of other persons.

**g.** The primary language spoken by a panelist may influence his or her listening behavior, and persons whose primary language is not English may be differentially represented in the sample. Arbitron currently weights its in-tab sample based upon primary language spoken by respondents only where primary Spanish-language usage population estimates are available.

**h.** The limitations in data from Claritas, Inc. are inherent in the Arbitron estimates based thereon. The population estimates from Claritas, Inc. used in designing and weighting the sample are based upon 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 by Claritas, Inc. 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.

**i.** The limitations in data provided by Nielsen Media Research, Inc., the third-party vendor that supplies language usage population estimates to Arbitron, are inherent in the Arbitron estimates based thereon. The language usage population estimates that Arbitron uses in weighting the sample are based upon this third-party vendor's survey results and, thus, are subject to all of the limitations existing in those results, which may include sampling and/or methodological errors, and processing 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 over- or undercounts of various segments of the population or other known data limitations.

**j.** Zip code information used to produce this report is subject to defects and limitations that are inherent in Arbitron estimates based thereon.

**k.** Panel members may not keep their assigned meters with them during all waking moments as instructed, and to the extent this occurs the media exposure data collected may be incomplete.

**l.** 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 PPM ratings reports.

**m.** Human and computer processing errors may occur before or after the PPM data are received by Arbitron. Consequently, the degree of variance in the data may be greater than that expected from sampling variance alone.

**n.** The data upon which Arbitron has based its in-tab sample weighting, including racial or ethnic identification, may not be precise.

**o.** Defects and limitations found in data supplied by others are inherent in Arbitron estimates based thereon.

**p.** Rounding occurs at various stages in the determination of audience estimates, at demographic and daypart summation levels. Due to rounding, mathematical manipulation by the user of estimates for narrow dayparts and/or demographic groups may produce a result that may be incongruent with estimates for broader dayparts and/or demographic groups.

**q.** Reported trends estimates may not be comparable over time due to: methodological or operational changes; changes in survey area definitions or populations; conditions not under Arbitron's control, such as changes in station operations/facilities/special activities; or other factors.

## 11. Warning

The PPM data are proprietary, confidential to, and copyrighted by Arbitron. The application is proprietary, confidential to, and copyrighted by Arbitron or its third-party provider. The unauthorized use of any of the PPM data and/or the application constitutes copyright infringement.

## 12. Special Notices

To the extent that any provisions contained in this methodology overview are inconsistent or conflict with any provision contained in the "Special Notices" section of this report, such Special Notices are deemed to supersede and/or amend this methodology overview.

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## 13. Disclaimer of Warranties

ARBITRON AND ITS THIRD-PARTY DATA AND/OR SERVICE PROVIDERS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING: DATA GATHERED OR OBTAINED BY ARBITRON; THE FUTURE METHODOLOGY EMPLOYED BY ARBITRON IN PRODUCING THE PPM DATA; THE PPM DATA PROVIDED HEREIN; THE APPLICATION PROVIDED HEREUNDER; AND ALL OTHER ASPECTS OF THE ARBITRON SERVICE. THE PPM DATA REPRESENT ONLY THE OPINION OF ARBITRON. THE APPLICATION PROVIDED HEREUNDER IS PROVIDED "AS IS-WHERE IS." RELIANCE ON AND USE OF THE PPM DATA AND THE APPLICATION ARE AT LICENSEE'S OWN RISK. IN NO EVENT SHALL ARBITRON BE LIABLE FOR THE FAILURE OF ANY THIRD-PARTY DATA AND/OR SERVICE PROVIDER TO PROVIDE DATA OR SERVICES FOR USE IN CONNECTION WITH THE PPM DATA AND/OR APPLICATION LICENSED HEREUNDER.

## 14. Liabilities and Limitations of Remedies

THE SOLE AND EXCLUSIVE REMEDY AT LAW OR IN EQUITY FOR ARBITRON'S OR ITS THIRD-PARTY DATA AND/OR SERVICE PROVIDER'S BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY OR FITNESS, AND THE SOLE AND EXCLUSIVE REMEDY FOR ARBITRON'S AND/OR ITS THIRD-PARTY DATA AND/OR SERVICE PROVIDER'S LIABILITY OF ANY KIND, INCLUDING WITHOUT LIMITATION LIABILITY OF NEGLIGENCE OR DELAY WITH RESPECT TO THE ARBITRON SERVICE, SHALL BE LIMITED TO AN AMOUNT NOT TO EXCEED \$200 FOR ALL CLAIMS IN THE AGGREGATE. IN NO EVENT SHALL ARBITRON AND/OR ANY THIRD-PARTY DATA AND/OR SERVICE PROVIDER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, NOR SHALL THEY BE SUBJECT TO INJUNCTIVE RELIEF WITH RESPECT TO THE PPM DATA AND/OR APPLICATION.

## 15. Reservation of Rights

Arbitron reserves the right to exercise its professional research 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. Arbitron reserves the right to change the scope of the PPM data provided and to cease to provide the PPM data and access to the application at any time.

## 16. Restrictions on Use of Report

All PPM data and estimates are for evaluation purposes only and are copyrighted by Arbitron. PPM data and estimates that are made available by Arbitron may only be used by licensed media outlets, advertisers and agencies and may only be used pursuant to the restrictions and limitations on use printed herein and in clients' agreements. Quotations of the data or estimates contained herein by users of this report must identify Arbitron as the source and that the data and estimates are copyrighted. Users of this report should also mention that these data and estimates are subject to all qualifications and limitations stated herein.

**Alternate City of Identification:** A city, other than its legally authorized city of license, with which a station may regularly ID.

**Alternates:** 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. Alternates must match refusing Basics in a given sampling unit on predetermined matching characteristics.

**Ascription:** A statistical procedure that assigns values, data or characteristics to one group based on the probability that the distribution of the values, data or characteristics is similar to that of another group.

**Average Quarter-Hour (AQH) Persons:** The estimated average number of persons exposed to a particular station for at least five minutes within a quarter-hour during a daypart. (Note: the five minutes of exposure need not be continuous.)

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

**Average Quarter-Hour Rating:** The Average Quarter-Hour Persons estimate expressed as a percentage of the appropriate estimated population.

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

**Basics:** Randomly selected household(s) chosen to represent a sampling unit in the panel.

**Below-the-Line Listing:** Describes when a station's estimates are listed in a Radio Market Report below a special distinguishing line. A station may be listed "below-the-line" if it has engaged in activities determined by Arbitron to have Rating Bias or Rating Distortion potential. Below-the-line may also refer to a station being listed as an "outside" station (rather than a "home" station).

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

**CBET (Critical Band Encoding Technology):** A sequence of uniquely timed sound patterns that are detected by a panelist's meter.

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

**Compliance Rate:** The percentage of metered panelists eligible to be included in the in-tab sample. A panelist may be ineligible due to factors including, but not limited to, an extended period of travel away from home.

**Cume Composition:** A station's Target Weekly Cume Persons divided by its Total 6+ Weekly Cume audience.

**Cume Duplication:** The percentage of estimated Cume Persons for one station that were exposed to a second station.

**Cume Persons:** The estimated number of different persons within a specific target demo who are exposed to a station for at least five minutes in a quarter-hour within a specified time period during an average week. (Note: the five minutes of exposure need not be continuous.)

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

**Daily Weight:** Numeric value assigned to an in-tab panelist on an average day for the purpose of projecting and estimating audience estimates to the population. The daily weight 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 panelist after sample balancing has been performed.

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

**Deinstalled Household:** 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 Market Area (DMA)<sup>®</sup>:** Nielsen Media Research, Inc.'s geographic market design which defines each television market exclusive of others based on measurable viewing patterns. Every county (or county equivalent) in the United States is assigned exclusively to one DMA.

**Differential Survey Treatments (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.

**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.

**Encoded Station:** A station that has received, installed and activated a CBET encoder. The code emitted by the encoder must pass the quality assurance tests performed by Arbitron's Encoding Operations Team.

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

**Ethnic Composition:** 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:** Procedures designed to improve the representation of Black and Hispanic populations in the panel.

**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:** Generally, any station licensed to a city located within a particular Arbitron radio Metro. A station that is not licensed to a city within an Arbitron radio Metro may be granted "home" status if it meets certain criteria.

**Installed Household:** A household that is currently participating in the panel.

**In-Tab Rate:** The percentage of metered panelists who wear or carry their meters for a time sufficient to be in-tab for that day.

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

**Listed Sample:** Telephone numbers in the sample for which names and mailable addresses are published in telephone directories.

**Listening Locations:** Locations for which audience estimates are reported (At Home, Out of Home).

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

**Media-Affiliated:** 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, a newspaper, a magazine, or an advertising agency. Media-affiliated households are not eligible to participate in the panel.

**Media Day:** 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:** Indicates the time when the meter detects and stores a CBET code.

**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 Areas, subject to exceptions dictated by historical industry usage or other marketing considerations as determined by Arbitron.

**Metro Totals:** 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.

**Model:** The particular group of panelists being sample-balanced together. A model may correspond to an entire Metro, to race, or to ethnicity within a particular Metro.

**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. Arbitron lists up to three network affiliations for reported stations on the "Station Information" page of the Radio Market Report, if the network qualifies to be listed and if the station reports such affiliation to Arbitron.

**Offline Status:** Status indicating that a panelist is not eligible to be in-tab.

**Online Status:** Status indicating that a panelist is eligible to be in-tab.

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

**Panel:** A group comprising panelists who have been assembled to carry the PPM.

**Panel/Panel Design:** A research methodology in which similar measurements are made on the same sample at different points in time.

**Panelist:** A person participating in the PPM ratings panel.

**Panel Management:** The processes by which panelists are encouraged to wear or carry their meters and the monitoring of panelist compliance with this instruction.

**Panel Relations Team:** Arbitron associates who interact directly with panelists.

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

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

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

**Premium:** An incentive intended to encourage participation in the panel, or offered as a "thank-you" for participation in the panel.

**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. This masking does not interfere with the meter's ability to detect a CBET code.

**Qualification Edit:** The 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:** The basic unit, or smallest time period, for which exposure is credited to stations. Generally, outlets receive credit for a quarter-hour 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's syndicated report that provides audience estimates and other data for specific markets.

**Rating:** (See "Average Quarter-Hour Rating.")

**Reliability:** The extent to which the survey estimate deviates, in repeated applications of the same sampling procedures, from the result that would be achieved through a complete census of the population, using the same methodological standards and data collection procedures. The degree of the reliability of estimates based on probability samples is usually expressed in terms of standard error. All things being equal, the smaller the standard error the more reliable the estimate.

**Sample Frame:** The universe from which potential respondent households are randomly selected. The sample frame for Arbitron panels is designed to include households with landline telephones and "cell-phone-only" households.

**Sample Performance Indicator (SPI):** The appropriate sample performance metric 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 installed sample size objective for a particular Metro.

**Sample Turnover:** When a household leaves the panel and is replaced by another household. All households are phased out of the panel after two years, but may be phased out earlier.

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

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

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

**Technical Difficulty (TD):** Time period(s) of five or more consecutive minutes during a quarter-hour within the report period for which a station listed in an Arbitron Radio Market Report notified Arbitron in writing of: reduced power; intermittent power; signal interference; or encoder failure. Audience estimates for stations will not be adjusted for sign-on/sign-off times or technical difficulties, including periods when a station's signal is not encoded.

**Time Period:** (See "Daypart.")

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

**Time Spent Listening (TSL):** An estimate of the average amount of time the average panelist was exposed to a station (or all encoded media) 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).

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

**Weekly Weight:** Numeric value assigned to an in-tab panelist during an average week for the purpose of projecting and estimating audience estimates to the population. The weekly weight 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 panelist after sample balancing has been performed.

## Frequently Used Abbreviations

AQH	Average Quarter-Hour
DST	Differential Survey Treatment
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
PPM	Portable People Meter
PUMM	Persons Using Measured Media
RMR	Radio Market Report
SSA	Special Station Activities
TD	Technical Difficulty
TSL	Time Spent Listening