



Arbitron Radio Description of Methodology

Radio Market Reports

ARBITRON



Arbitron Radio Description of Methodology

Radio Market Reports

Foreword

The characteristics of radio which make it an excellent choice for the advertiser – that radio is used by “everyone, everywhere, at any time” – make the radio audience particularly challenging to measure.

Arbitron’s radio survey methodology is specifically designed to meet that challenge. It is a complex survey design based on sampling methods, respondent treatments, data collection instruments, and crediting rules developed specifically for radio ratings surveys. It is a design that has evolved over more than 30 years of research and development in radio audience measurement. It will continue to evolve, too, as an exploding media environment and an increasingly busy and diverse survey population make the job of producing high-quality radio ratings even more difficult in the future.

This newly updated *Arbitron Radio Description of Methodology* provides a technical summary of the survey methodology and related policies and procedures on which Arbitron’s radio ratings service is based. We encourage all users of Arbitron radio ratings information to read it, and to keep it on hand as a reference tool. We further invite you to contact your Arbitron representative with questions, comments or suggestions for improving any aspect of our radio surveys.

Robert H. Patchen
Director, Research

Methodology Highlights

- Random generation of sample telephone numbers provides excellent coverage of both listed and unlisted telephone households.
- Intensive telephone and mail recruitment of all sampled households encourages cooperation. Sample telephone numbers are dialed up to 13 times on different days and at different times to maximize contact rates.
- Portable, personal, seven-day radio diary captures a full week of listening for all respondents. The easy-to-complete diary requests start and stop times, station identifier, AM/FM band and listening location for each episode of radio listening.
- Cash diary and follow-up premiums, follow-up telephone calls and follow-up letters maximize response rates.
- Special Differential Survey Treatments (DST) improve response rates and in-tab representation among the Black, Hispanic and young male populations.
- Detailed diary edit rules, comprehensive, up-to-date station information files and computerized edit checks support appropriate crediting of reported listening.
- State-of-the-art electronic imaging technology allows instantaneous retrieval of in-tab diaries, including comments.
- Rigorous quality control procedures, in-depth annual audits by a major independent accounting firm and ongoing EMRC accreditation assure users of consistently high product quality.

Introduction

Arbitron Radio Market Reports

The Arbitron Radio Market Reports provide Arbitron clients with reliable information on the size and demographic composition of radio audiences – information essential to sound decision making for advertising sales and radio programming.

The Radio Market Reports contain the audience estimates for that survey period in a particular Arbitron-defined market, audience trends based on prior Arbitron surveys and general marketing information.

Information relating to specific Radio Market Reports, such as sample sizes or the distribution of in-tab diaries, is provided in the applicable Report.

Arbitron Radio Description of Methodology

The *Arbitron Radio Description of Methodology* is intended to provide a detailed description of the methodology used in the production of Arbitron Radio Market Reports (both Standard and Condensed). It includes information about the types of audience estimates included in the reports, the sampling methods used, the methods of obtaining and processing the data, and the statistical reliability of the resulting estimates. Such information is designed to assist users to better understand what the audience estimates published in the reports represent and their limitations. The methodology described herein is applicable only to Arbitron Radio Market Reports, which are published regularly at periodic intervals as defined by Arbitron. Methodology for other services or special surveys may differ and is described in the applicable service and/or report.

This *Arbitron Radio Description of Methodology* replaces previously published descriptions of methodology for Radio and remains in effect until it is revised and/or replaced by The Arbitron Company. To the extent that any provisions contained in this *Arbitron Radio Description of Methodology* are inconsistent or conflict with any provision contained in the summary "Description of Methodology" and/or on the "Special Notices

and Station Activities" page of the most current Radio Market Reports, the latter two are deemed to supersede and/or amend this *Arbitron Radio Description of Methodology*.

Any revisions, modifications or amendments in methodology or service which occur subsequent to the publication of this description are generally announced via bulletins and/or similar publications provided to Arbitron subscribers and the Electronic Media Rating Council. All such issued revisions, modifications or amendments become integral and incorporated parts of this text by reference.

What EMRC Accreditation Means



Accredited by
Electronic Media
Rating Council®

The Arbitron Radio Market Report service has been accredited by the Electronic Media Rating Council (EMRC) since 1968. To merit continued EMRC accreditation, Arbitron:

1. Adheres to the Council's Minimum Standards for Electronic Media Rating Research;
2. Provides full and complete information to the Council regarding all 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 EMRC.

In addition to sizable annual audit charges, Arbitron provides office and file space for EMRC auditors, as well as considerable staff and computer time involved in various aspects of these inspections.

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

Executive Director
Electronic Media Rating Council
200 West 57th Street, Suite 204
New York, NY 10019

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The Market

Market Name

A market name used by Arbitron is descriptive of the survey area of that market. Market names generally correspond to the name established for the Metropolitan Statistical Area (MSA), Primary Metropolitan Statistical Area (PMSA) or Consolidated Metropolitan Statistical Area (CMSA) by the federal government's Office of Management and Budget (OMB).¹ However, the OMB designation may be modified by Arbitron to better reflect market preference or industry usage.

Arbitron's conformity with or deviation from OMB definitions is noted on the Special Notices and Station Activities page of each Radio Market Report. As trend analyses may be affected by any change in market definition, it is also noted if any Metro counties have been added or deleted during the periods covered by the Target Listener Trends section of the Report.

For survey areas that do not have an official MSA, PMSA or CMSA designation, generally up to three cities may be included in the market name, listed in sequential order from largest to smallest estimated population. However, Arbitron may adopt an alternative name to better reflect market preference or industry usage.

Market Definition

An Arbitron radio market can consist of up to three geographic areas:

- Metro Survey Area (Metro)
- Total Survey Area (TSA) and, if applicable,
- Designated Market Area (DMA®)

DMA® is a registered service mark of A.C. Nielsen Company, and is used pursuant to a license from A.C. Nielsen Company.

¹ Metropolitan Statistical Area definitions are modified periodically by the OMB. Additional information concerning the definition, creation, modification and denomination of Metropolitan Areas may be obtained by contacting the Statistical Policy Office, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503. Information on how Arbitron uses the OMB Metropolitan Area designations may be obtained from Arbitron's Research Department.

These areas are composed of sampling units which generally correspond to a single county or county equivalent,² but may also consist of a portion of a county, known as a split county.³ Each Arbitron Radio Market Report includes a map of the counties and split counties that comprise the survey area(s) applicable to that market. The map is keyed to show which counties make up the Metro, TSA and, where applicable, the DMA.

Metro Survey Area (Metro)

Arbitron Metro Survey Areas generally correspond to the federal government's Metropolitan Areas.

A Metropolitan Area includes a city (or cities) whose population is specified as that of the central city together with the county or counties in which it is located. Metropolitan Areas may also include additional or contiguous counties when their economic and social relationships meet the criteria specified for metropolitan integration. Commuting, population density, urbanization and other data supplied by the U.S. Bureau of the Census are used to define Metropolitan Areas. A Metropolitan Area may cross state lines.

Metropolitan Areas can stand alone, in which case the designation is simply Metropolitan Statistical Area (MSA); or they can be large metropolitan areas composed of smaller metropolitan areas, where both the whole and each component area qualify as "metropolitan" according to the standard guidelines. The individual metropolitan areas which comprise the larger Consolidated Metropolitan Statistical Area (CMSA) are

² County equivalents include the District of Columbia; certain cities (located primarily in the state of Virginia) which are independent of any county organization; "boroughs" and "census areas" in Alaska; and "parishes" in Louisiana. Throughout this document, "county" should be understood to include both counties and all county equivalents.

³ A split county is a portion of a county, consisting of one or more zip codes, which is recognized as a separate sampling unit for purposes of survey area definition or more discrete sample control.

designated Primary Metropolitan Statistical Areas (PMSAs). MSAs and PMSAs, which are the basic (nonoverlapping) metropolitan units, are most frequently used by businesses and other users of census data, although some of Arbitron's radio Metros do conform to the CMSA definitions.

For areas that do not have an OMB-defined metropolitan area, Arbitron usually defines the Metro Survey Area to include the county(ies) of the majority of the local area radio stations' city(ies) of license. Arbitron Metro Survey Areas may cross state lines.

Although in most cases radio Metros are defined in terms of whole counties, in some cases (notably New England,⁴ but elsewhere, as well), it may be necessary for Arbitron to subdivide a county into two or more split counties in order to accommodate within-county variations in signal reception and/or radio listening patterns. Split counties are defined and maintained at the zip code level, and are treated as separate sampling units for purposes of Metro Survey Area definition, sample placement and returned-sample weighting.

Arbitron Metro Survey Area definitions are reviewed for possible update once every 10 years, after the OMB has updated its Metropolitan Areas based on the new decennial census data. In the review process, consideration is given to longstanding historical definitions. Planned changes are announced in advance so that consideration may also be given to the views of subscribers.

Changes to existing Metro Survey Area definitions between the 10-year OMB review cycles will be considered by Arbitron if a formal written proposal, which presents in detail the rationale and benefits of the proposed Metro, is submitted to Arbitron within established deadlines; widespread subscriber support for the change is generally required, as well.

Upon receipt of a proposal, Arbitron will evaluate the change using information supplied in the proposal and any other relevant and available information.

To maintain the stability of market definitions, Arbitron follows a set of guidelines which allows objective and consistent decisions in each case. Following is a summary description of Arbitron's objectives and practices regarding changes to radio Metro Survey Area definitions.

The Role of OMB Definitions

Historically, Arbitron radio Metro definition analyses have begun with the federal government's Office of Management and Budget Metropolitan Statistical Area (MSA) designations. As described by the OMB, the "general concept of a metropolitan statistical area is one of a large population nucleus, together with adjacent communities which have a high degree of economic and social integration with that nucleus."⁵ OMB designations are used as a starting point in order to provide a consistent means of defining local markets; and when only one OMB definition of a "Metro" is available, that designation provides a reasonable model for Arbitron radio Metros.

However, in some regions, there are a variety of OMB definitions available. Near many large cities, for example, the OMB identifies both Primary Metropolitan Statistical Areas (PMSAs) and Consolidated Metropolitan Statistical Areas (CMSAs). The latter is a much larger geography, typically encompassing multiple PMSAs. In New England, an additional definition at a whole-county level is the New England County Metropolitan Area (NECMA). A NECMA definition is inclusive in that it can include multiple PMSAs as can a CMSA. For the reasons described in the next section, Arbitron takes primary guidance from the PMSA definition when multiple definitions are available.

⁴ In the six New England states, the cities and towns are administratively more important than the counties, and a wide range of data is compiled locally for those entities. Therefore, the cities and town are the units used by the OMB to define Metropolitan Statistical Areas in these states. Alternative definitions – whole-county definitions called New England County Metropolitan Areas (NECMAs) – are also available. Arbitron uses one of the two (depending on the preference of station subscribers) for many of its New England Metro Survey Areas.

⁵ "The Metropolitan Statistical Area Classification, Final Standards for Establishing Metropolitan Statistical Areas Following the 1980 Census," Federal Register, January 3, 1980, Part 6.

In either case, however, Arbitron's practice is to allow for the possibility that a "radio Metro" could differ from the OMB definitions for a variety of reasons. Where listening patterns, consumer behavior and/or marketing practices clearly imply a different pattern of geographical affiliation (as discussed below), it may be concluded that a different market definition is appropriate for radio advertising and programming purposes.

Principle of Localism

The radio Metro Survey Area is the primary survey area for the buying and selling of local radio advertising time, and is generally representative of a *local* marketing area, which in turn reflects the nature of the medium. Radio's strength for advertising comes in part from its ability to target advertising more precisely than other media, and that characteristic is apparent in how Arbitron data are used. While other larger market definitions are routinely provided in Arbitron's Radio Market Reports (the Total Survey Area and the Nielsen DMA definition used for television advertising), it's clear that the more local Arbitron Metro is the primary unit of analysis for radio marketing.

Thus, it is Arbitron's practice to recognize and preserve local patterns of marketing in Metro definitions when such patterns are clear from analysis.

Principle of Continuity

When considering a change to a radio Metro Survey Area, regardless of whether a proposed change corresponds to or deviates from an OMB Metropolitan Area definition, Arbitron's objective is to provide users of our data with consistent and appropriate survey measurement. Thus, in the absence of compelling evidence, or in the presence of ambiguous data, consideration is given to longstanding historical definitions in order to maintain consistency and stability for *all* users of Arbitron data.

When Arbitron does change a Metro Survey Area definition, it is intended that the redefined survey area remain in effect for a period of at least three years before any further changes will be considered for the then-current Metro Survey Area. This practice provides users of Arbitron radio audience estimates with the ability to trend and compare audience and qualitative information (where available) across multiple surveys.

Primary Types of Analysis for Metro Redefinition

To determine whether a requested Metro redefinition represents an appropriate pattern of geographical affiliation for radio, three types of data are considered:

Government Data: As described above, Arbitron takes significant guidance from OMB definitions of MSAs and PMSAs. From time to time, the OMB releases modifications to its various Metropolitan Area definitions, and Arbitron considers both the nature of and the reasons for that change. Other objective sources of population data may also be of value. For example, Census Bureau estimates of commuting patterns are updated after each decennial census, and such data provide useful guidance on whether patterns of consumer behavior have changed significantly in ways that should be reflected in Metro definitions.

Radio Listening Patterns: Recent patterns of Arbitron listening data are important variables in the evaluation. Listening behavior is analyzed in a variety of ways in search of logical local audience patterns. For example, while the "dominant share" for different cities of license is considered, an evaluation of which individual stations are dominant in the geography under study is also conducted. Overall, Arbitron's objective is to have Metros reflect logical marketing areas for both advertising and programming purposes, consistent with the principle of localism described above.

Other Marketing Data: The Arbitron service fundamentally seeks to connect advertisers with stations. Thus, a Metro Survey Area must make sense from an advertiser perspective as well as a station perspective. In determining the level of affiliation between the existing Metro Survey Area and the proposed geography, how the component geographies cluster from a consumer perspective is reviewed. A variety of economic indicators (e.g., shopping patterns) are examined in order to determine whether consumers in the geography being studied show economic affiliation patterns that marketers are likely to recognize.

In addition, Arbitron will consider other data, as necessary, to be sure that a proposed change is operationally feasible and consistent with general principles of survey research. Examples include analysis of sampling requirements for the existing Metro area versus the proposed Metro geography; effects on ethnic composition and/or high-density ethnic geographies and procedures; and a review of the potential effects on adjacent survey areas.

Level of Client Support Required

Arbitron's Metro definition procedures require that at least 50 percent of station clients (owners) in a given market area support any request for change in order for Arbitron to initiate an evaluation of the proposed change. Client station input is sought primarily for *initiating* an evaluation of a proposed change to the survey area definition.

However, during the evaluation period, client stations' opinions and views regarding the marketing value of a proposed change may also be collected, in the course of compiling documentary evidence for the proposed change. A high level of station client support for a change to an existing Metro definition is considered during the evaluation process, but there must also be sufficient documentary evidence that the change will improve the appropriateness of the local market area for most users of Arbitron data.

Following are examples of some of the questions relevant to a Metro redefinition analysis. While this list is not exhaustive, it may be useful as a reference conjunctive with the above information.

- Does the current Arbitron radio Metro definition conform to an OMB Metropolitan Statistical Area definition?
- How likely is it that the OMB will redefine the MSA with the next decennial census? (Have population, commuting patterns or urbanization changed dramatically since the previous census?)
- Are there strong economic and trade links between current Metro counties and proposed Metro counties? What are the trading patterns in the proposed counties?
- Is the percent of listening to Metro stations in the proposed counties in line with listening levels in current Metro counties?
- Does the proposed change affect the AQH ranking of Metro stations?
- In ethnic-controlled markets, will the ethnic composition of the Metro be affected?
- Are Arbitron subscribers a representative cross section of the stations in the market in terms of size, coverage, ranking, etc.?
- What is the level of support for the change by clients in the marketplace?
- Is there a benefit to local radio stations?
- Are there adjacent radio Metros which would be affected by the proposed change?

Reservation of Rights

All determinations regarding Arbitron radio Metro Survey Areas remain solely and unilaterally with Arbitron. Arbitron reserves the right to not repeat an analysis of the same or substantially similar request for redefinition if there is no evidence of new data patterns sufficient to cause a different conclusion. Arbitron further reserves the right to consider factors other than those listed above, and to exercise its professional research judgment in determining definitions for radio Metro Survey Areas if any aspect of the process described above is not applicable to the specific situation or may be impractical in light of known conditions.

Total Survey Area (TSA)

The Total Survey Area (TSA) of an Arbitron radio market is designed to provide a comprehensive measure of listening to *Metro-licensed stations*. Audience estimates for the TSA are reported for the Spring and Fall surveys only.

The TSA is a geographic area composed of the Metro and any additional counties or split counties⁶ which meet certain criteria for inclusion. Counties are not split for the purpose of defining the TSA; however, any split counties which were created for the purpose of defining a Metro will be analyzed separately in the TSA qualification process. TSAs may cross state lines.

TSA definitions are based on historical radio listening patterns and are updated biennially from an analysis of diary data used for the most recent County Coverage study (excluding any additional sample ordered for Arbitron Custom Survey Area Reports [CSARs]). Updates are effective with the Fall survey of odd-number years (e.g., 1995, 1997) based on diaries returned for all four surveys of the previous calendar year (e.g., 1994, 1996, respectively).

TSA Qualification Criteria

A county or split county will be *added* to the TSA of a market if:

- At least 10 diaries were in-tab from the county; *and*
- The Metro-licensed stations cumulatively receive a minimum of 10 diary mentions; *and*
- The mentions to Metro-licensed stations account for at least 10 percent of the total mentions to all stations from that county (9.5 percent rounds to 10 percent).

The “10-10-10” rule outlined above is the basis for TSA qualification. However, strict application of the rule may not always produce a logical TSA or provide for the qualification of a county in which very few diaries are historically placed.

Therefore, a county which does not meet the “10-10-10” criteria outlined above may still be *added* to the TSA of a market if:

- At least 15 percent of its total mentions are to Metro-licensed stations, regardless of the number of in-tab diaries and/or number of mentions to Metro-licensed stations (14.5 percent rounds to 15 percent); *or*
- Approximately 75 percent or more of the county’s border is contiguous with other counties in the same TSA.

Notwithstanding the above criteria, a county will not be added to the TSA of a market if it is not contiguous with the rest of that market’s TSA.

TSAs for new markets are established in accordance with the above criteria, except that more recent diary data may be used, if available.

TSA Retention Criteria

In order to stabilize market definitions over time, Arbitron has set the criteria for retaining counties in the TSA lower than the initial qualification criteria.

A county from which a minimum of 10 in-tab diaries were returned will be *retained* in the TSA of a market if:

- The Metro-licensed stations cumulatively receive a minimum of 8 diary mentions, *and* the mentions to Metro-licensed stations account for at least 8 percent of the total mentions to all stations from that county (7.5 percent rounds to 8 percent); *or*
- Metro-licensed stations cumulatively receive fewer than 8 diary mentions, *but* the mentions to Metro-licensed stations account for at least 10 percent of the total mentions to all stations from that county (9.5 percent rounds to 10 percent).

⁶ Here, and throughout this Arbitron Radio Description of Methodology, references to “county(ies)” should be understood as applying to split counties, as well, unless otherwise indicated.

However, a county which does not meet the applicable criteria outlined above may still be *retained* in the TSA of a market if:

- At least 15 percent of its total mentions are to Metro-licensed stations, regardless of the number of in-tab diaries and/or number of mentions to Metro-licensed stations (14.5 percent rounds to 15 percent); *or*
- Approximately 75 percent or more of the county's border is contiguous with other counties in the same TSA.

Notwithstanding the above criteria, for purposes of maintaining survey area stability, a county from which fewer than 10 in-tab diaries were returned will generally not be deleted from a TSA.

The inclusion of a county in the TSA does not imply that all Metro-licensed stations have received diary mentions in the county. Also, because individual counties can, and often do, qualify for the TSAs of two or more markets, TSAs for adjacent markets frequently overlap. Thus, the TSA audience estimates for a particular station in one market may not be additive to TSA audience estimates for the same station in an adjacent market.

Reservation of Rights

Arbitron reserves the right to exercise its professional research judgment in modifying, suspending and/or waiving any criteria in cases where the strict application of the criteria would, in Arbitron's judgment, produce illogical survey area configurations or would adversely affect the quality and/or utility of the reported audience estimates.

Designated Market Area (DMA®)

In addition to reporting radio audience estimates for the Metro and TSA, Arbitron reports radio audience estimates for the Top 50 *Television DMAs* (ranked on TV households) for the Spring and Fall surveys only, as follows:

Radio audience estimates for DMAs are published in the Radio Market Reports of all Standard radio markets whose Metros are located within the DMA *and* whose names are contained in the DMA name. For example, radio audience estimates for the San Francisco-Oakland-San Jose DMA are reported in both the San Francisco and the San Jose Radio Market Reports; however, radio audience estimates for the New York DMA are reported in the New York Report, but not in the Nassau-Suffolk Report.

The Designated Market Area is A.C. Nielsen's geographic market design which defines each television market. DMAs are composed of counties (and possibly also split counties) and are updated annually by the A.C. Nielsen Company based on historical television viewing patterns. Every county or split county in the United States⁷ is assigned exclusively to one DMA.

⁷ Contiguous 48 states plus portions of Alaska and Hawaii.

The Sample

Sample Universe

Arbitron's sample universe consists of persons 12 years of age and older.

Sample Frame

The sample frame for Arbitron radio surveys is designed to include households with telephones. It is developed using a modified random digit dialing (RDD) technique to ensure broad inclusion of unlisted telephone numbers. Specifically, the frame contains all residential telephone numbers listed in current published local telephone directories, *plus* all possible telephone numbers in hundred blocks which contain at least 10 listed residential numbers. Known nonresidential telephone numbers are excluded from the frame. The primary source for sample telephone numbers is Metromail Corporation.

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+,¹ additional telephone hundred blocks may be added to the frame. Hundred blocks eligible to be added are those with fewer than 10 residential listings which are known to serve residential housing for the college and/or military population in the Metro. This information is generally obtained through direct contact with the college and/or military institution.

Sample Targets

Arbitron develops Persons 12+ in-tab sample targets for each of the following market segments:

- Metro
- Non-Metro TSA (where applicable)
- DMA (where applicable)

The Metro sample target is reported in each Radio Market Report, 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 and usability
- Interviewer performance
- Nonsurvey-related conditions in the market during the sample placement and survey periods, such as inclement weather, power outages, natural disasters or political events

Metro Targets

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

Standard Market Report

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

Results rounded to the next 10

No Maximum; Minimum = 610

Condensed Market Report

$$T_c = \frac{1.9}{\sqrt{\text{Metro Population 12+}}} + 1.35$$

Results rounded to the next 10

Maximum = 440; Minimum = 280

These formulas reflect the 10 percent across-the-board Metro target increase which was implemented in two stages: one-half in Fall 1990 and one-half in Fall 1991 (Spring 1991 and Spring 1992 for Spring-only markets).²

¹ Based on 1/1/94 population estimates.

² The 10 percent Metro target increase was implemented as a straight percentage increase over the Fall 1989 targets, rounded to the next 10. Targets for Metros which have been established or revised since Fall 1991 were computed based on the formulas.

1994-1996 Sample Increase Program

In 1993, Arbitron announced a program designed to further increase Metro targets by up to 70 percent over Fall 1993 targets in Continuous Measurement (CM) markets and by 40 percent in non-CM markets. These increases were largely contingent upon subscriber support,³ and were phased in over the two-year period Winter 1994 to Winter 1996 (Spring 1994 to Spring 1996 for non-CM markets).

As a result of the increases, the current Metro targets for all CM markets and many non-CM markets are higher than those which the above formulas would produce, as outlined below:

Market Type	Supported Increase?	% Increase vs. Fall 1993	Examples of Metro Target Increases	
			From...	To...
CM	Yes	70%	2,170	3,690
CM	No	15%	2,170	2,500
Non-CM	Yes	40%	900	1,260
Non-CM	No	—	900	900

There may be other instances where the Metro sample targets do not correspond to those which would be produced by the formulas (with maximums and minimums applied). For instance, Metro sample targets for markets which lose geography (and, therefore, population) as a result of post-decennial census OMB Metro redefinitions are generally maintained at pre-OMB levels. Other exceptions include embedded Metros (e.g., Nassau-Suffolk in New York), which are generally capped at some level below formula.

Metro targets for new markets and markets experiencing a Metro definition change are computed using the most recent available population estimates.

³ Only the first 15 percent of the total 70 percent increase for CM markets was not contingent upon subscriber support; it was implemented for all CM markets, to offset the elimination of TSA/DMA measurement in Winter and Summer starting Winter 1994. The remaining 55 percent of the total 70 percent increase for CM markets was contingent upon subscriber support in the respective markets.

Non-Metro TSA Targets

The Non-Metro TSA target is calculated from the total TSA Effective Sample Base (ESB)⁴ goal for each market, based on the following formula:⁵

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

The ESB goal is equal to the Metro target plus some constant, generally between 100 and 400 depending on market size (from smallest to largest). The calculated 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 calculated 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 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.

⁴ The Effective Sample Base (ESB) provides an estimate of the size of a simple random sample that would be required to provide the same degree of reliability (amount of sampling error) as the sample for a complex survey such as Arbitron's.

⁵ Non-Metro TSA targets were last updated effective with the Fall 1993 TSA update; they have been maintained at Fall 1993 levels throughout the 1994-1996 Metro sample increase program.

Sample Target Allocation

Once established, market segment targets are then allocated to the sampling unit (county/split county) level. For each market segment (Metro, Non-Metro TSA, DMA), the target allocation is based on each sampling unit's proportion of the total 12+ market segment population. However, two or more targets may be generated for a given sampling unit due to the following circumstances: A sampling unit can be included in two segments of the same market (Non-Metro TSA and DMA); and/or in multiple markets (Metro to one market/TSA to another); and/or may have minimum sample requirements for the Radio County Coverage Report. In all cases, the highest target is used for sampling purposes.

Sample Ordering

After high targets have been established for each sampling unit, those targets are divided by three to produce phase (four-week) targets. The phase targets are then divided by historical phase-level sample performance rates for that sampling unit, to determine the number of telephone numbers which must be ordered from Metromail Corporation in order to achieve the target number of in-tab diaries.⁶

For example, if the county target is 200 in-tab diaries, and historical sample performance rates are as follows:

Sample Usability rate ⁷	= .80
Consent rate	= .75
Persons-Per-Household	= 1.9
Return rate	= .55

then the minimum sample order for the county would be computed as follows:

$$200 \div .80 \div .75 \div 1.9 \div .55$$

equals **319** telephone numbers.⁸

For each quarterly survey, Arbitron determines the number of telephone numbers to be ordered for every measured county in the country in this manner.

For purposes of drawing the quarterly sample order from the RDD sample frame, the frame is sorted by telephone number within zip code within 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, such that the file for each sampling unit receives one complete pass.

After the quarterly sample order has been drawn from the sample frame, the corresponding names and addresses, if available, are appended to the telephone numbers. Telephone numbers with names and mailable addresses are designated, treated and reported as listed sample; telephone numbers without names and addresses (or with names but no mailable addresses) are designated, treated and reported as unlisted sample. All sample, once selected, is called to completion.

Sample Selection

From the quarterly sample order, sample is selected for calling for each week of the survey, utilizing 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, as outlined in the previous section. 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.

⁶ Sample is ordered from Metromail Corporation at least four times per year (for each quarterly radio survey), with additional interim orders as needed.

⁷ i.e., Telephone Number Usability rate.

⁸ In actual practice, considerably more than the minimum number of phone numbers are ordered, to allow for differences between historical and current-survey sample performance rates.

Sample Monitoring

Arbitron's sample management system continually monitors diary placements (i.e., the total number of diaries mailed to consenting homes) against the total number which must be placed in order to achieve target (assuming a certain return rate). If the system determines that the number of diaries actually placed, plus the number of diaries predicted to be placed^a will be insufficient to meet the in-tab target (again, assuming a certain return rate), additional sample may be selected. Similarly, if the system determines that too many diaries are being placed, it may reduce the amount of sample to be selected for upcoming week(s).

Adjustments may also be made for unexpected shortfalls or overages in diary return rates, but such opportunities are more limited because diary return statistics for Phases II and III are not available in time for corrective action.

Additional sample is selected in the same manner as the starting sample (i.e., one complete pass of the file for each sampling unit, as needed). All sample, once selected, is called to completion.

^a Refers to telephone numbers which have been selected, and may have been dialed one or more times, but which have not yet answered. The likelihood of eventual contact decreases as the number of unsuccessful attempts increases.

Survey Methods and Operations

The Radio Listening Diary

The Arbitron radio survey is a prealerted, telephone-placed mail survey. The survey instrument, Arbitron's seven-day radio listening diary, is self-administered and designed to be personally maintained by all individuals 12 years of age and older in each sample household, up to a maximum of nine persons.

Easy-to-read instructions are provided on the inside front cover of the diary, followed by a page for each day of the week. The open-ended format of the day pages allows diarykeepers to record the essential details of each radio listening occasion: start and stop times, station identifier(s), AM/FM indicator(s) and listening location(s) *or* to check a box which indicates that they did not listen to radio that particular day.

In the back of the diary, respondents are asked to provide their age, sex, employment status, city, county and zip code. Space is also provided for diarykeepers to write comments about specific stations in their market. A simple checklist on the inside back cover is designed to encourage the completion and timely return of each diary. Respondents are reminded that the diary is a self-mailer with return postage already affixed to it, so that it need only be sealed and dropped into the mail.

The information provided in the diary forms the basis of the audience estimates published in Arbitron Radio Market Reports.

THURSDAY									
	Time		Station <small>Call letters or station name Don't know? Use program name or dial setting.</small>	Check (✓) one		Check (✓) one			
	Start	Stop		AM	FM	At Home	In a Car	At Work	Other Place
Early Morning (from 5 AM)									
Midday									
Late Afternoon									
Night									

If you didn't hear a radio today,
please check here. ☐

Survey Schedule

Arbitron radio surveys are conducted over a 12-week period. There are four 12-week surveys per year (Winter, Spring, Summer and Fall), for a total of 48 weeks of radio measurement. Arbitron markets are measured according to one of the following schedules: all four surveys (known as "Continuous Measurement"), two surveys per year (Spring and Fall), or one survey per year (Spring only). Arbitron audience estimates represent radio listening during an average week of the particular quarterly survey period.

Standard Diary Placement and Follow-Up Procedures

Arbitron's diary placement and follow-up procedures are designed to stimulate interest in the survey and to encourage full survey participation by all individuals in the designated sample. A combination of telephone and mail procedures is used to optimize the rate at which respondents accept and return diaries. The following standard procedures and premium amounts are applicable to sample households which do not receive any of the special procedures outlined in later sections of this chapter.

Placement Postcard or Letter: Arbitron's first contact with a *listed* sample household is generally a postcard informing the household of its selection for participation in the radio survey and advising that a telephone interviewer will call soon with more information. If the telephone number of the sample household is unlisted, the name and address of the household is not known prior to calling. Therefore, the first contact with an *unlisted* household is the placement call. A letter is sent immediately after the placement call to reinforce the household's commitment to participate in the survey.

Placement Call: The purpose of the placement call is to determine the eligibility of the sample household, to gain acceptance of the diaries and to elicit information necessary to initiate any applicable special survey procedures (see "Special Survey Procedures," below). Interviewers make up to 13 attempts to reach sample households during the placement period for each survey week. To increase the likelihood of establishing 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 sample homes, the interviewers determine the number of persons 12 years of age and older in the household. Households with more than nine persons 12 and older are ineligible for survey participation. The interviewers also ask whether anyone in the household is employed by a radio or television station or network or a cable system or network (known as the "media affiliation question"). An affirmative answer to this question disqualifies the entire household from participation in the survey.

In Metros which qualify for Black and/or Hispanic Differential Survey Treatments, the interviewer asks a question about the race and/or ethnicity of the household. For households in ethnic-controlled Metros not identifying themselves as Black or Hispanic, and for all households in non-controlled Metros, the interviewer asks about the presence of a male age 18-24 and, in qualifying Metros, the presence of a male age 25-34 in the household.

For listed sample, the interviewers verify the name of the contacted respondent and ask for the household address. For unlisted sample, the interviewer must obtain a name and address for the household. If, during the course of providing the address, 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.

Diary Package: Based on information collected by the interviewer, diaries are mailed to all persons age 12 and older in consenting households. A token cash premium, generally \$0.50 or \$1.00, is sent with each diary. The diaries and premiums are packaged together for all persons in the same household. 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. In most cases, diaries are mailed in a window envelope; however, special box mailers are used to encourage higher diary return rates among households containing four or more persons age 12 and older.

Follow-Up Call: After the diaries are mailed, households are recontacted to verify that the diaries were received, to remind respondents of the importance of their diaries, to answer any questions about how to record listening in the diaries, to remind diarykeepers to return their diaries after the survey week and to thank them for their participation in the survey. *Interviewers are instructed to leave scripted messages on answering machines for specified calling attempts.*

Follow-Up Letter: On the first day of the survey, a follow-up letter is mailed to each consenting household. The letter thanks the household again for agreeing to participate, encourages the return of all diaries and includes an additional cash premium for the household, generally \$1.00.

Special Survey Procedures

Arbitron has implemented special survey procedures called Differential Survey Treatments (DST) in order to maximize participation by demographic groups which have a historical pattern of being underrepresented in surveys. The ultimate goal of these procedures is to produce a final in-tab sample which reflects, as closely as possible, the characteristics of the market being measured.

In Metros which *qualify* for ethnic controls (see below), Black and/or Hispanic households receive these special procedures. In *all* Metros, households not already receiving Black or Hispanic DST are eligible to receive Male 18-24 DST; and in *qualifying* Metros (see below), households not already receiving Black or Hispanic DST are eligible for Male 25-34 DST.

Ethnic Control Qualification

Black and Hispanic ethnic controls consist of the following enhanced survey procedures in qualifying Metros:

- Differential Survey Treatments (DST), such as higher premiums and additional follow-up calls, based on the respondent's answer to the race and/or Hispanic ethnicity question at placement, plus bilingual (Spanish/English) survey materials for Hispanic DST;
- Eligibility for the establishment of High-Density Black Areas (HDBAs) and/or High-Density Hispanic Areas (HDHAs) in Metro counties and split counties;
- Black and/or Hispanic weighting of the returned sample for Market Report processing.¹

¹ See Chapter Six, "Sample Weighting," for information on race/ethnic weighting.

In order to qualify for ethnic controls, the Metro Persons 12+ estimated population must be:

- At least 10 percent Black or Hispanic (9.5 percent rounds to 10 percent); or have
- At least 150,000 Black or Hispanic Persons 12+.

All Arbitron Metros are reviewed annually for possible ethnic control qualification, to be effective with the Spring survey. Metros may qualify to receive both Black and Hispanic controls (known as "dual-DST markets") if the Black and Hispanic populations individually meet one of the above criteria. Once implemented in a Metro, ethnic controls are generally retained, regardless of possible short-term fluctuations in annually updated population estimates or other factors.

Male 25-34 DST Qualification

All Arbitron Metros are reviewed annually for possible Male 25-34 DST qualification. A Metro qualifies for some level of Male 25-34 DST if its average Male 25-34 in-tab proportionality index² is:

- *below* 90;
- *below* its average index² for Male 18-24; and
- *below* its average index² for Black and/or Hispanic (if applicable).

Specific DST treatments depend on the average index (see "Male 25-34 DST," below).

Differential Survey Treatments (DST)

In general, DST consists of higher cash premiums and additional follow-up contacts to encourage respondent participation and diary return. All respondents in DST households receive the same premium amount, regardless of the targeted DST group.

² Average proportionality indices are based on the most recent Winter through Fall surveys for Continuous Measurement markets; the most recent Spring and Fall surveys for Spring/Fall markets; and the two most recent Spring surveys for Spring-only markets.

Black DST: In Metros qualifying for Black controls, households identifying themselves as Black in response to the race question at placement receive the following:

- Higher diary premiums: If the household includes a Black male age 18-34 and there are four or fewer persons age 12+ in the household, the diary premium is generally \$5.00. If the household includes a Black male age 18-34 but has more than four persons age 12+ in the household, the premium amount is generally \$2.00 per diary;
- Diaries and premiums are mailed in special box packaging to all households;
- Two additional follow-up calls (survey week and postsurvey) for a total of three calls;
- Higher follow-up premiums: If the household contains a Black male age 18-34, the premium is generally \$1.00 *per person*.³ If the household does not contain a Black male age 18-34, the premium amount is generally \$2.00 *per household*.

Hispanic DST: In Metros qualifying for Hispanic controls, households identifying themselves as Hispanic in response to the Hispanic ethnicity question at placement receive the following:

- Higher diary premiums, generally \$2.00;
- Two additional follow-up calls (survey week and postsurvey);
- Higher follow-up premiums, generally \$2.00;
- Bilingual (Spanish/English) survey materials.⁴

Male 18-24 DST: All Metro sample households not already receiving Black or Hispanic DST are eligible for Male 18-24 DST. Households indicating during the placement call that a male age 18-24 resides in the household receive the following:

- Higher diary premiums, generally \$3.00;
- Two additional follow-up calls (survey week and postsurvey);
- Diaries and premiums mailed in special box packaging to all households;
- Follow-up postcard.

³ Effective with the Fall 1996 survey, \$1.00 per person premiums replace \$5.00 per household premiums.

⁴ Bilingual materials are also sent to households which did not respond to the Hispanic ethnicity question at placement (Hispanic and race questions in dual-DST Metros) and, regardless of whether the county is Hispanic-controlled, any other household which requests them.

In addition, scripts for both the placement and follow-up calls contain language emphasizing the importance of survey participation by young adults.

Male 25-34 DST: In Metros qualifying for Male 25-34 DST, households not already receiving Black or Hispanic DST are eligible for Male 25-34 DST as follows (specific DST treatments depend on the Metro's average Male 25-34 proportionality index):

- For Metros where the average index is *below 90 but over 80*, households indicating at placement that a male age 25-34 resides in the household receive a total of three follow-up calls;
- For Metros where the average index is *below 80*, households indicating at placement that a male age 25-34 resides in the household receive three follow-up calls *and* higher diary premiums, generally \$2.00.

High-Density Areas (HDAs)

A High-Density Area is a zip code-defined sampling unit which may be established in a county or split county within the Metro of an ethnic-controlled market. HDAs allow for sample planning at a more discrete level than the whole or split county, because sample performance data, such as sample telephone number usability, consent rate, persons-per-household and return rate can be tracked for the individual portions of the county. All counties and split counties in ethnic-controlled Metros⁵ are reviewed annually for possible HDA qualification, with updates effective for the Fall Survey.

Following are the HDA qualification criteria for individual counties and split counties:

High-Density Black Area (HDBA)

- The county must have one or more zip codes which are at least 35 percent Black.

⁵ Excludes embedded Metro counties that are not weighted for race or Hispanic ethnicity.

- The proposed HDBA (i.e., the 35 percent or higher zips, taken together) and the proposed Balance portions of the county must have sufficient population, as a proportion of the total Metro, to be allocated an in-tab target of at least 21 diaries. An HDBA will be retained as long as the target for each portion of the county is at least 18 diaries.

High-Density Hispanic Area (HDHA)

- The county must have one or more zip codes which are at least 25 percent Hispanic.
- The proposed HDHA (i.e., the 25 percent or higher zips, taken together) and the proposed Balance portions of the county must have sufficient population, as a proportion of the total Metro, to be allocated an in-tab target of at least 21 diaries. An HDHA will be retained as long as the target for each portion of the county is at least 18 diaries.

In dual-DST markets, a zip code may technically qualify for both the HDBA and the HDHA by being at least 35 percent Black and at least 25 percent Hispanic. In such cases, the zip is assigned to the HDA which corresponds to the absolute higher of the two (Black or Hispanic) population percentages.

Additionally, 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 HDA2(s). Criteria for establishing an HDA2 vary based on individual Metro considerations.

Interviewing

Placement and follow-up calls are performed by interviewers based in centralized interviewing facilities (internal Arbitron and external marketing research suppliers) using a computer-assisted telephone interviewing (CATI) system and Arbitron-maintained software.

Recruitment and Training

Before hiring, interviewer applicants are screened for job-related qualifications which generally include at least one year of experience in

outbound interviewing or telemarketing. After the initial interview, a formal assessment is conducted covering word pronunciation, script reading, the ability to follow directions and attention to details.

Prior to actual survey placement and follow-up calling, interviewers are trained with Arbitron-produced instruction materials during an intensive interviewer training course. This training course provides interviewers with explicit instructions on interviewing; techniques for engaging in conversation and overcoming objections; CATI system operations; as well as overviews of the survey production process, product usage and related Arbitron client needs. Once actual survey calling begins, interviewers receive additional coaching and are provided with supplemental training on an ongoing basis.

Quality Control

Arbitron uses several methods of quality control to ensure that standard interviewing procedures are properly executed. Among the quality control methods used are:

- **Standardized Scripts.** Interviewers use standardized scripts appropriate to the category of sample being called as provided by Arbitron.
- **Monitoring and Validation.** Supervisors monitor and audit results of selected calls made by interviewers as they take place from the centralized interviewing facilities. This real-time monitoring and validation helps to ensure that correct procedures are being followed, and allow for more immediate feedback on an interviewer's performance.
- **Performance Reviews.** Consent rates and response rates are tracked for each interviewer, and performance is reviewed daily. Any interviewer with low performance is removed from survey calling and additional training is provided. If performance does not improve after this, the interviewer is not retained.
- **Incentives.** Interviewers with high performance are rewarded through a multilevel incentive program which includes awards and cash bonuses, as well as daily incentive goals.

Diary Processing

The diary processing and editing guidelines provided herein are for general information purposes; they do not constitute the full body of Arbitron radio processing and editing procedures. Usable diaries are processed in accordance with procedures listed in the Arbitron Radio Edit Procedures Manual and subsequent updates.

As diaries are returned to Arbitron, they are electronically scanned into the computer. Electronic images of the diaries are then forwarded to diary processors, who perform a series of checks and edits, on-screen, as they key-enter the demographic and radio listening information. On-line crediting tools, which reflect the most current station information on file with Arbitron, are available on all diary processor PCs. As each diary is selected for processing, the station information applicable to that particular county is automatically displayed.

Radio diary processors are responsible for checking, editing and keying all diary information used to develop audience estimates. This is accomplished in two stages. First is a front-to-back check of the diary contents, primarily intended to determine the diary's usability. This is followed by the lengthier process of clarifying and keying the listening data: start and stop times, station call letters, AM/FM band and listening location. (See "Usability Check and Verification of County Assignment" and "Clarification and Key Entry of Listening Information," below.)

After the listening and nonlistening information has been keyed into the system, the diaries are processed through a series of automated edits and quality assurance checks. One such edit is the crediting of aberrated ("illegal") call letters to a set of legal call letters, if possible. Another automated edit attempts to assign "blank station" entries to a legal station, if possible, based on patterns of listening contained in the particular diary. (See "Crediting of Aberrated Call Letters" and "Blank Station Edit," below.)

Quality assurance measures include internal audits of each diary processor's work, periodic checks to ensure that all scanned diaries have been properly accounted for in the system, and the automatic rejection of diaries which meet certain preestablished criteria for deletion. (See "Quality Assurance," below.)

Usability Check and Verification of County Assignment

Arbitron makes reasonable efforts to utilize all returned diaries. However, some returned diaries will be determined to be unusable at various points during diary processing and subsequent processing of the diary data. The usability check, performed on each diary prior to any editing of the listening information, may result in a diary being excluded from the survey for one of the following reasons:

- Postmarked or received before the last day of the survey week;
- Received after the designated survey week cutoff date;
- Incomplete or blank;
Diaries with six usable days are processed unless they are postmarked the last day of the survey, in which case they are considered unusable. A usable day contains radio listening entries or a check in the "no listening" box or a written comment on the day page to explain a no-listening day.
- Respondent under 12 years of age;
- Kept by a person outside of the sampled household;
- Respondent resides outside of a survey area;
Diaries reassigned to a county which is not being surveyed become unusable.
- Missing age or sex (or race, if applicable);
Diaries missing demographic information are routed to a re-call center prior to editing. If the missing information can be obtained from the respondent via callback, the diary is returned to a diary processing workstation for editing. Otherwise, it is coded as unusable.

Diaries may also be deleted for security reasons (including, but not limited to, media affiliation) at any time prior to final report processing.

County Verification

Radio diary processors ensure that the county and zip code to which the diary is assigned for purposes of diary and report processing match the county and zip code information provided by the diarykeeper in the back of the diary. Thus, if the originally assigned county and/or zip code differ from the county and/or zip code supplied by the diarykeeper, the diary is recoded to match the information supplied by the diarykeeper.

Unusable Diaries

Unusable diaries are coded as unusable and tallied separately from usable diaries. Data pertaining to unusable diaries (such as the diary label information, the “unusable reason” code and any listening information which may already have been key-entered when the diary was determined to be unusable, as well as the scanned images of the unusable diaries) are stored for the same length of time as usable diaries. (See “Retention of Radio Survey Materials,” page 21.)

Clarification and Key Entry of Listening Information

Arbitron diarykeepers record their radio listening utilizing a variety of station identifiers, including call letters, exact frequencies, Station Names, program names, personalities, sporting events and networks. These identifiers may be listed alone or in combination (possibly, but not necessarily, indicating listening to more than one station).

One of the primary goals of diary processing is to credit all station identifiers to a set of call letters prior to report processing, since call letters are the only completely unique station identifiers. This is

done on a county-by-county basis using on-line computer crediting tools which include information on all stations whose broadcast signal has been determined by Arbitron to reach into the specific county (or split county), and may also include information on other stations which have been identified in diaries received from the county.

The on-line crediting tools contain the following information for each station: FCC or other legally authorized call letters; frequency; city of license, alternate city, county and state; network affiliation; current Station Name; most recent previous Station Name; on-air date; and other various notations. Diary processors also refer to the Programming Schedules and Sports Programming Schedules returned by stations prior to each quarterly survey.¹

In the process of key-entering the listening information, radio diary processors also enter a one-character station ID code (c = call letters, f = frequency, s = Station Name, etc.) which is useful for analysis purposes or as a basis for selecting diaries via Arbitron’s Electronic Diary Storage and Retrieval (EDSR) system.

Radio diary processors also ensure that the listening times are complete and in proper sequence. This may include time editing, according to established procedures.

Diary entries are subject to the interpretation of diary processors. However, Arbitron employs a range of quality assurance procedures, as outlined below. The “Comments” section in the back of the diary is provided to elicit qualitative feedback for the benefit of radio stations. Unless the diary processor is specifically directed to the “Comments” section by diarykeeper notations elsewhere in the diary, the information in the “Comments” section is not utilized in the edit process. Diaries containing comments are coded so that they can be readily identified via Arbitron’s Electronic Diary Storage and Retrieval system.

¹ See Chapter Eight, “Station Reporting” (“Station Information” section), for specifics on how Arbitron collects station information.

Crediting of Aberrated Call Letters

Respondent confusion over call letters, AM/FM bands or unclear handwriting and subsequent interpretation by diary processors may result in key-entered call letters which are not legal or logical in the county from which the diary was returned. These instances are referred to as aberrated (or “illegal”) call letters. When these aberrated call letters are entered into the computer, the automated crediting system (or “flip system”), through a series of sequential logical steps, will attempt to credit (or “flip”) them to a set of call letters which are legal in the particular county.

Some examples of aberrated call letters (in quotes below) flipping to legal call letters are:

- **Station Name Flips**
“KLIT-FM” flipping to legal station KKLt-FM, which uses the Station Name “K-Lite”
- **Previous Call Letter Flips**
Old call letters “WYNY-FM” flipping to new call letters WKTU-FM
- **Opposite-Band Flips**
“WAMU-AM” flipping to legal station WAMU-FM
- **Match Character Flips**
*“WBBD-FM” flipping to legal station WBDD-FM;
“KDOJ-FM” flipping to legal station KODJ-FM*

If two or more stations are eligible for credit in any one of the sequential steps, credit is determined via the “one percent in-tab criterion” and ascription, if necessary, as outlined in Chapter Five, “Station Names,” the section entitled “Crediting of Station Names.” If the computer cannot find a legal and logical station to which to credit the entry, the call letters will remain as originally key-entered.

Blank Station Edit

Through the automated Blank Station Edit, a blank entry (that is, a listening entry with start and/or stop times which is missing a station identifier) may be credited to a station listed elsewhere in the diary under certain circumstances:

- If only one station is mentioned in the diary, the blank entry is generally credited to that station;
- If the blank entry is on a weekday and its start and stop times match (or are closely similar to) entries to the same station on other weekdays, the blank entry may be credited to that station (exact criteria apply);
- If only one station is mentioned on a particular day page, the blank entry is generally credited to that station, provided the blank entry is not the first entry on the page.

If the blank entry cannot be credited to a station via one of the above criteria, the entry is credited to Unidentified Listening.

Quality Assurance

As the diary information is keyed into the computer, certain data must be double-keyed for quality assurance purposes. These include the diarykeeper’s sex and age, plus any call letters not on file as reaching the county from which the diary was received and any zip codes which are changed to match the zip code supplied by the diarykeeper.

The electronic processing of diaries allows periodic checks of the diaries in the system to ensure that all originally scanned diaries are accounted for, and that all eligible diaries are forwarded to report processing.

To maintain high accuracy rates, Arbitron conducts *weekly* audits of each diary processor’s work. Each audited diary, selected at random, is thoroughly reviewed by one of a team of quality specialists which maintains a detailed log of any errors discovered via the audit. The information in the log 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.

Overall edit accuracy rates are monitored via separate, *monthly* audits of a random sample of diaries from that month’s total diarybase.

Automated Diary Deletes

Certain conditions may prompt a diary to be excluded from the survey, including, but not limited to:

- Two or more diaries from the same household which have identical sex/age and identical or closely similar listening;
- Three or more diaries from the same household which have identical sex/age;
- Listening that exceeds Arbitron's established thresholds for excessive listening.

Diary Security

Arbitron has established procedures to prevent tampering with the sample, which might affect reported audience estimates.

- Arbitron will not knowingly include in its tabulated samples any household having a household member who owns or works (full-time or part-time) for a radio station or network, a television station or network, or a cable system or network.
- Additional procedures have also been established to minimize the potential for diary tampering. These procedures, because of their purpose, remain confidential.

Revisions and Reissues

Corrections to Published Radio Market Reports

Audience estimates obtained from the processing of diaries and published in the Arbitron Radio Market Reports are subject to errors of various types. If an error is discovered, it is investigated and possible corrective actions are considered. Corrective actions may include, but are not limited to, Report reissue, Report revision, a client service bulletin or a letter to the market.

For information regarding limitations to the audience estimates, see Chapter 11, "Restrictions on Use of Reports and Limitations."

Processing Errors Affecting Published Audience Estimates

Processing errors can be systematic or nonsystematic in nature. Systematic errors can result from the improper updating of source information, such as Station Names; the failure to update computer files so that automated procedures are performed correctly; or the inadvertent inclusion of suspect diaries in the in-tab sample. Nonsystematic (or random) errors are generally isolated occurrences, such as a crediting or key-entry error, or any other nonrepetitive manual error.

As a general policy, Arbitron will consider Report reissues in instances where there is a meaningful change in audience estimates and/or the competitive position of stations in the market, as determined by Arbitron. All decisions regarding Report reissues, revisions or other corrective actions are at the sole discretion of Arbitron.

Processing Errors Not Affecting Published Audience Estimates

Information other than the audience estimates may be affected by errors, such as incorrect reporting of a station as home to the Metro or outside the Metro; incorrect lead-in page data on items such as the technical difficulty information, call letter change information, station facility information, station subscriber status and survey area map; or incorrect simulcast times that cause incorrect simulcast dayparts to be shown on the "Special Notices and Station Activities" page of the Report.

Such instances are evaluated for corrective action on a case-by-case basis. Arbitron will exercise its professional research 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 Report.

Retention of Radio Survey Materials

The electronic images of usable diaries (that is, diaries which were in-tab for the compilation of audience estimates in Arbitron Radio Market Reports) are retained for one year from the date on which the subject Report was first mailed to subscribers by Arbitron. Unusable diaries and other survey materials are retained in paper format or as electronic images for one year from the date on which the subject Report was first mailed to subscribers by Arbitron. After such time, all electronic images, diaries and other survey materials are destroyed.

Subscribers to Radio Market Reports are reminded that any special tabulations of previously published estimates should be ordered before the end of the retention period. Similarly, Report subscribers interested in scheduling an electronic review of the applicable in-tab diaries² should contact Arbitron's Client Services Department in Columbia, MD, before the retention period has expired.

² Visitors to Arbitron's Client Services Department for authorized diary reviews may not print or copy Arbitron diaries. They may, however, take notes and/or read comments or other information into a tape recorder and may also print the demo page with comments for up to five diaries of their choice.

Station Names

Stations utilize a variety of on-air identifiers, including their call letters, exact frequencies and Station Names. All such identifiers routinely appear in Arbitron diaries, but because Station Names tend to be the least unique of the major station IDs, appropriate crediting of Station Names is a particularly sensitive aspect of Arbitron's diary processing methodology.

In order to ensure fairness and consistency in its handling of Station Names, Arbitron developed the Station Name guidelines and procedures which are outlined in this chapter. The extreme specificity of these guidelines is by design, in order that they may be applied unambiguously across all markets and stations.

Station Name Guidelines

Arbitron attempts to maintain a list of most frequently used Station Names in order to properly credit the radio listening which is reported in Arbitron diaries.

- For Arbitron's purposes, "Station Name" refers to a station's most frequently used on-air identifier other than call letters or lone exact frequency. Station Names must be used as station identifiers clearly, audibly and repeatedly during the broadcast hour. Examples of Station Names include "Hot 107," "Q-95.3," "The Rocker," "Newstalk 11."
- A Station Name may contain up to 25 characters (including spaces) but should not contain abbreviations, slashes, multiple spellings or redundant elements.
- Stations which use their rounded or truncated frequency as a station identifier must submit the whole number as an identifier in order to be eligible for credit for the whole number.
- Identifiers or information such as, but not limited to, call letters, lone exact frequencies, sports, personalities, programs, network affiliations and nonpersonalized generic descriptors should not be included in the 25-character Station Name because the information should already be listed with Arbitron.

- Station Names must be used as station identifiers at least *four times per hour*, or on more than 50 percent of the occasions on which a station uses an ID on the air during the broadcast hour. All IDs must be separated from each other by programming content, such as news, weather or music. Submitted Station Names are subject to deletion if not used on the air as a station identifier in accordance with these guidelines. (See "Station Name Air-Check Procedures," below.)
- No more than one whole-number Station Name will be accepted for nonsimulcast stations or same-band simulcast stations. Opposite-band simulcast stations are generally permitted to list whole-number Station Names for both stations as part of each station's Station Name.

Arbitron encourages stations to submit their most current station identifiers. This may be done at any time by sending a letter to the attention of *Radio Station Relations, The Arbitron Company, 9705 Patuxent Woods Drive, Columbia, MD, 21046-1572*. However, the primary vehicle for updating Station Names is the Station Information Form. The Form is sent to all radio stations as part of the Station Information Packet (SIP) seven weeks prior to each quarterly survey. It is due back to Arbitron four weeks prior to each quarterly survey. (See example on page 38.)

The Station Name Preview, a list of updated Station Names for each Metro, is then mailed to all Metro-licensed and/or "one percent qualifying"¹ stations two weeks prior to each survey. The purpose of the Preview is to allow stations to verify that their Station Names are correctly listed on file with Arbitron, and to provide stations with a list of other Station Names on file for their market.

¹ See "one percent in-tab criterion" under "Crediting of Station Names," below.

Arbitron reserves the right to:

- Question, reconfirm or verify the actual use of any submitted Station Name;
- Add to its Station Name file any word, words or whole number which may fall outside the description of Station Names outlined above but which has been determined to appear in Arbitron diaries for a particular market; and
- Adopt whatever procedure it deems appropriate in its professional research judgment to support the appropriate crediting of diary entries.

Note: Arbitron's Station Name file exists for the sole purpose of appropriately crediting radio listening recorded in Arbitron diaries. Having a Station Name on file with Arbitron does not guarantee exclusivity and does not constitute legal authorization to use the Station Name; nor are the Station Name listings in any way a substitute for service marks or trademarks.

Crediting of Station Names

When a Station Name (e.g., "Magic 106.5") is used by a diarykeeper to identify a station, the diary processor uses the on-line crediting tools for the county from which the diary was received to determine which station, if any, should receive credit for the entry(ies).

- If the Station Name entry in the diary is listed for only one station, then that station receives credit.
- If the Station Name entry in the diary is listed for two or more stations, credit is determined via the "one percent in-tab criterion" and ascription, if necessary, as follows:
- If only one of the stations using the Station Name meets the "one percent in-tab criterion," that station receives credit. *(A station meets the "one percent in-tab criterion" if it was mentioned in at least one percent of the in-tab diaries from that county in the preceding available survey year.)*

- If two or more stations meet the "one percent in-tab criterion," credit is determined through ascription. *(Ascription is a statistical technique that assigns diary credit based upon each station's historical diary mentions in the county from which the diary is received. The diary mentions are transformed into probability ranges for purposes of assigning credit. A random number is generated, and, within whichever station's range the number falls, that station receives credit.)*
- If the Station Name entry in the diary has not been submitted by any station reaching into the county from which the diary was received, the entry is credited to Unidentified Listening.

These procedures are also used to assign credit where two or more stations are eligible for exact frequency, program, personality, sports or network entries. (See "Diary Processing," Chapter Four, for more information.)

Station Name Air-Check Procedures

Should a station fail to update its Station Name appropriately (that is, should a station not use the Station Name it has on file with Arbitron), another station in the market may submit to Arbitron an air-check tape documenting the first station's non-usage of that Station Name. The air-check tape should be a 120-minute (two-hour) cassette tape and must be recorded as follows:

- Contain two unedited, continuous 60-minute recordings (one on each side of the tape);
- During the Monday-Friday 6AM-Midnight daypart during the same calendar week of the applicable survey;
- During the survey for which it is submitted by an outside monitoring source who is not employed by the challenging station.

Tapes should be blank (either new or thoroughly erased) when recording begins, clearly labeled and be accompanied by a notarized letter from the monitoring source indicating the following:

- Station challenging the Station Name
- Station taped (air-checked station)
- Station Name in question
- Date of taping
- Start and stop times of each 60-minute recording
- Each side of the air-check tape is complete and unedited

Air-check tapes will not be accepted unless the above procedures are followed. Arbitron does not edit diaries retroactively; therefore, air-check tapes should be submitted as soon as possible to ensure appropriate diary editing. The tape and notarized letter should be sent to the attention of *Radio Station Relations, The Arbitron Company, 9705 Patuxent Woods Drive, Columbia, MD, 21046-1572.*

If the submitted air-check tape provides documentation that the Station Name in question is not used in accordance with the above Station Name guidelines, the Station Name in question will be deleted from Arbitron's Station Name listing for that station for the remainder of the applicable survey. Both the air-checked station and the station challenging the Station Name will be notified immediately.

A deleted Station Name cannot be resubmitted by the air-checked station during the same survey, although it may be submitted for the following survey. Station Names which are chronically submitted and then deleted via air-check may be disallowed for more than one survey.

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. Weighting is appropriate when the following two conditions are present:

- Certain segments of the population are disproportionately represented in the sample; and
- The behavior being measured (in this case, radio listening) is likely to be different for those segments.

Sample Balancing

The weighting system used by Arbitron 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, used by the U.S. Bureau of the Census for its sample surveys, was developed by Drs. W. Edwards Deming and Frederick S. Stephen and is outlined in Chapter 7 of Dr. Deming's book *Statistical Adjustment of Data*.

Maximum reliability and minimum bias are achieved by performing the least amount of weighting necessary to correct for sample disproportionalities that could distort the listening estimates. It would be possible to perform more weighting – i.e., weight to more discrete levels, as in cell weighting – but excessive weighting would actually decrease the reliability of the resulting estimates. Arbitron radio samples are weighted on up to three variables:

Geography

All markets and survey areas are weighted to the individual county, split-county or county cluster level.¹ Thus, the number of geographic classes may vary considerably from one market to the next.

Sex/Age

All markets and survey areas are weighted to 16 individual sex/age classes:

<u>Males</u>	<u>Females</u>
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+

Race/Ethnicity

In ethnic-controlled Metros, there could be two or three race/ethnic classes, as follows:

- **Black and Other** – in Black DST markets, based on the household's response to the race question at placement; or
- **Hispanic and Other** – in Hispanic DST markets, based on the household's response to the Hispanic ethnicity question at placement; or
- **Black, Hispanic and Other** – in "dual-DST" markets, based on the household's response(s) to the Hispanic ethnicity question and, if applicable, the race question at placement.²

¹ In some instances, generally in the Non-Metro TSA, several adjacent counties with small in-tabs may be clustered together as one geographic class for sample balancing purposes.

² For sample balancing and report processing purposes, Black and Hispanic are considered mutually exclusive categories. During the placement call, sample households in "dual-DST" Metros are first asked the Hispanic ethnicity question; if the response to Hispanic ethnicity is "no," the sample household is then asked the race question.

The Mechanics of Marginal Weighting

Marginal weighting means that the in-tab for the survey area is weighted to represent the current estimated population for the survey area for each of the specified marginal classes listed above. For example, let's assume that for weighting purposes, a survey area has two ethnic classes (Hispanic and Other), the 16 sex/age classes and three county classes:

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 applied 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 applied to all Other diaries.

Step Two: If 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 applied to all County A diaries. Same process for County B diaries and County C diaries.

Step Three: If Women 35-44 represented 6.0 percent of the population but only 5.0 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.

This round of adjustments is called one *iteration*. 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.³

It is extremely unlikely that, after the county and sex/age adjustments, the weighted Hispanic in-tab would still equal 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. So, another 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 Radio Market Report.

Calculation of Persons-Per-Diary Values (PPDVs)

Sample balancing produces weights for each marginal class within a survey area, and each diary belongs to one class within each marginal category. Therefore, each diary is weighted multiple times.

In the above example, a diary from a Hispanic woman age 42 from County A might receive the following weights:

Hispanic weight	=	1.28
County A weight	=	0.79
W35-44 weight	=	1.23

This would compute to an overall weight of 1.24 ($1.28 \times 0.79 \times 1.23$). The diary value would be equal to the model population divided by the model in-tab (or average diary value) times the

³ 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 1.0 – is being continually adjusted around that value until convergence is attained.

weight. Example: If the model population were 82,500 and the in-tab were 165, the average PPDV would be 500; with a weighting factor of 1.24, that particular diary would have a PPDV of 500×1.24 , or 620. The PPDV is the number of persons that that diary is estimated to represent.⁴

Sample Balancing Models

The context in which sample balancing is performed – that is, the particular group of diaries being sample-balanced together – is called a *model*. The previous sections explained how marginal weighting would be performed for a particular group of diaries in a “survey area.” In fact, models generally do correspond to survey areas, or subsets of survey areas. For example, following is a typical model configuration for a market which qualifies for DMA reporting:⁵

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

But they 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 sample category (Black, Hispanic, Other, as applicable) is at least 250; or
- The theoretical in-tab target for each sample category is at least 160 and the population is at least 10 percent Black or Hispanic, as applicable.⁶

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. Model configurations are at the sole discretion of Arbitron and subject to its professional research judgment.

⁴ It should be noted that all calculations are performed to more significant places than the above examples, which are deliberately simplistic for illustration purposes.

⁵ This example assumes there are no Metro counties which are not also in the DMA, and no DMA counties which are not also in the TSA.

⁶ If neither of these criteria is met, then race/ethnicity remains a marginal category within a model, as described in the section “The Mechanics of Marginal Weighting,” above.

Calculation of Audience Estimates

The estimates in this chapter are those published in Arbitron Radio Market Reports. For information on additional, commonly used calculations and on how to use audience estimates for purposes of buying, selling and programming radio, please refer to the Arbitron publication A Guide to Understanding and Using Radio Audience Estimates.

Cume Persons

Cume Persons estimates for individual stations are computed by summing the PPDVs for each diary in which a station receives at least one quarter-hour of listening credit for the time the station is on the air within a daypart. PPDVs are summed for all diaries within the particular demographic group (e.g., Men 18-24, Persons 25-54), then rounded to hundreds. Cume Persons, abbreviated "Cume (00)," are expressed in hundreds (e.g., 29549) in Arbitron Radio Market Reports.

Average Quarter-Hour (AQH) Persons

AQH Persons estimates for individual stations are computed by multiplying, for each diary, the number of quarter-hours of listening to a station (for the time the station is on the air within a daypart) by that diary's PPDV. The result of this multiplication is summed for all diaries within the particular demographic group, then divided by the number of quarter-hours in the daypart (or, if not a 24-hour station, the number of quarter-hours the station was on the air during the daypart¹), then rounded to hundreds. AQH Persons, abbreviated "AQH (00)," are expressed in hundreds (e.g., 872) in Arbitron Radio Market Reports.

Cume Rating

Cume Ratings for individual stations are computed by dividing the rounded Cume Persons estimate for the station by the population estimate for the particular demographic group (also in hundreds), and then multiplying by 100. Cume ratings, abbreviated "Cume Rtg," are expressed in tenths of a rating point (e.g., 19.8) in Arbitron Radio Market Reports.

Average Quarter-Hour (AQH) Rating

AQH Ratings for individual stations are computed by dividing the rounded AQH Persons estimate for the station by the population estimate for the particular demographic group (also in hundreds), and then multiplying by 100. AQH ratings, abbreviated "AQH Rtg," are expressed in tenths of a rating point (e.g., 2.3) in Arbitron Radio Market Reports.

Average Quarter-Hour (AQH) Share

AQH share for individual stations is computed by dividing the rounded AQH Persons estimate for the station by the rounded Market Total AQH Persons estimate, then multiplying by 100. AQH shares, abbreviated "AQH Shr," are expressed in tenths of a share point (e.g., 5.7) in Arbitron Radio Market Reports.

Time Spent Listening (TSL)

Time Spent Listening for individual stations is computed by multiplying the unrounded AQH Persons estimate for the station by the number of quarter-hours in the particular daypart,² then dividing by the unrounded Cume Persons estimate for that daypart. Time Spent Listening is rounded to the nearest quarter-hour, and expressed in hours and minutes (e.g., 6:15 or 9:45) in Arbitron Radio Market Reports.

¹ Stations must be on the air at least four quarter-hours on each day of the applicable daypart in order to be reported for that daypart.

² To compute the number of quarter-hours in a daypart, multiply the number of hours in one day of the daypart by the number of days in the daypart, then multiply that by 4 (the number of quarter-hours in one hour). Examples: Mon-Fri 6A-10A would be 4 hours times 5 days times 4, or 80 quarter-hours; Weekend 6A-Mid would be 18 hours times 2 days times 4, or 144 quarter-hours.

Listener Composition

Listener Composition Persons, Rating and Share estimates for individual stations are computed as outlined above under Cume/AQH Persons, Cume/AQH Rating and AQH Share.

Listener Composition percents (%) for individual stations (both AQH and Cume) are computed by dividing the unrounded Persons estimate for the demographic group by the unrounded Persons 12+ estimate for that station, then multiplying by 100. Listener Composition percents are expressed in whole percentage points (e.g., 18) in Arbitron Radio Market Reports.

Ethnic Composition

Ethnic Composition Persons and Rating estimates for individual stations are computed as outlined above under Cume/AQH Persons and Cume/AQH Rating.

Ethnic Composition percents (%) for individual stations (both AQH and Cume) are computed by dividing the unrounded Black and/or Hispanic Persons estimate by the Total Persons estimate for that station, then multiplying by 100. Ethnic Composition percents are expressed in whole percentage points (e.g., 83) in Arbitron Radio Market Reports.

Exclusive Cume

Exclusive Cume Persons estimates for individual stations are computed by summing the PPDVs for each diary which contained listening to that station only and then rounding to hundreds. Exclusive Cume Persons, abbreviated Exclusive (00), are expressed in hundreds (e.g., 326) in Arbitron Radio Market Reports.

Exclusive percents (%) for individual stations are computed by dividing the unrounded exclusive Cume Persons estimate by the total Cume Persons estimate for that station, then multiplying by 100. Exclusive percents are expressed in whole percentage points (e.g., 7) in Arbitron Radio Market Reports.

Listening Locations

Listening Location Persons estimates for individual stations are computed as outlined above under AQH Persons.

Listening Location percents (%) for individual stations are computed by dividing the unrounded Persons estimate for a particular location, demo and daypart by the total unrounded Persons estimate for that station, demo and daypart, and then multiplying by 100. Listening Location percents are expressed in whole percentage points (e.g., 61) in Arbitron Radio Market Reports.

Cume Duplication Percent

Cume Persons estimates for individual stations are computed as outlined above under "Cume Persons."

Cume Duplication percents are computed by dividing the sum of the PPDVs for the diaries which reported listening to both stations represented by a point on the grid by the unrounded Cume Persons estimate for the top station and then multiplying by 100. Cume Duplication percents are expressed in whole percentage points (e.g., 27) in Arbitron Radio Market Reports.

Multibook Averages

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.³ Four- and two-book averages are shown for a station only if the station was reported in the Radio Market Reports for all of the surveys included in the average. A zero value is used in the calculation of the average if a station was listed in a particular Report but no estimate was reported for the particular demo and daypart.

³ Applies to all estimates for which multibook averages are shown: AQH (00), Cume (00), AQH Rating, AQH Share and TSL.

Station Reporting

Criteria for Reporting Stations

To be listed in an Arbitron Radio Market Report, a commercial radio station must engage in systematic regular commercial broadcasting pursuant to the authority of the Federal Communications Commission (FCC) or other appropriate governmental authority, and it must meet Arbitron's Minimum Reporting Standards (MRS) as outlined below.

Audience estimates for a station which does not meet MRS cannot be obtained in any way from the audience estimates published in the Radio Market Reports, including the Target Listener Trends estimates from prior survey periods. TSA estimates are reported only for stations which have qualified for reporting in the Metro.

All radio stations, commercial and noncommercial alike, are measured using the same methodology. However, noncommercial and cable-only stations are not eligible to be listed in the Radio Market Reports and are not considered in the MRS evaluation. For Report qualification purposes, stations are considered commercial/noncommercial based on their status as of the last day of the survey as reported to Arbitron. Listening to noncommercial stations, cable-only stations, commercial stations which fail to meet MRS and unidentified stations is included in the Market Totals.

To ensure that all commercial stations have equal opportunity to qualify for inclusion, the MRS criteria are applied to every commercial station each time the market is surveyed. Stations reported as home to the Metro (or DMA, if applicable) and stations reported as outside of the Metro (or DMA) qualify for reporting based on

the same MRS criteria. The MRS applied to a station are determined by the simulcast status of that station, i.e., whether the station reports to Arbitron that it is simulcasting with another station and, if so, the amount of its programming which is simulcast.

Minimum Reporting Standards for Nonsimulcast Stations

Commercial stations broadcasting on only the AM or only the FM band that do not report simulcast programming to Arbitron are considered nonsimulcast stations. A commercial nonsimulcast station is included in a Market Report if it has met all of the following Minimum Reporting Standards for the Metro and/or, if applicable, the DMA¹ among Persons 12+ during the Monday-Sunday 6AM-Midnight daypart for the applicable survey period:

- a. The station must have received five or more minutes of listening in a quarter-hour in at least 10 Metro in-tab diaries (10 DMA in-tab diaries for DMA qualification); and,
- b. The station must have a Metro Cume rating of 0.495 or greater (DMA Cume rating of 0.495 or greater for DMA qualification); and,
- c. The station must have a Metro Average Quarter-Hour rating of 0.05 or greater (DMA Average Quarter-Hour rating of 0.05 or greater for DMA qualification) for the time the station is on the air during the Monday-Sunday 6AM-Midnight daypart.

¹ A station must qualify (i.e., meet MRS) in the Metro and/or DMA of a market in order to appear in the station lineup for that section of the Report (See "Reporting Sequence" and "Simulcast Reporting", below, for details on station sequencing within the Metro and DMA sections of the Report.)

Minimum Reporting Standards for Simulcast Stations

Stations which have submitted simulcast schedules for the applicable survey and which have simulcast for the entire survey may be eligible for simulcast reporting in a Market Report. For Arbitron reporting purposes, simulcasting is defined as the simultaneous broadcast of one station's total uninterrupted broadcast flow, including commercials, by a second station, without any variation except if the two stations choose to *separately but simultaneously* identify their call letters, frequency, Station Name and/or city(ies) of license. Simulcast MRS apply to *two* simulcast stations only – either same-band (AM/AM, FM/FM) or opposite-band (AM/FM).

Minimum Reporting Standards (MRS) for simulcast stations are generally based on the percent of quarter-hours in the Monday-Sunday 6AM-Midnight daypart (when both stations are on the air simultaneously) that the two stations simulcast for every week of the survey, as follows:

9.49 Percent or Less

The two stations are considered to be nonsimulcast stations. Therefore, each station must independently meet the “Minimum Reporting Standards for Nonsimulcast Stations,” above.

9.5 Percent to 90.49 Percent

The two stations are considered to be partially simulcast stations. If one of the two stations meets *all* of the Minimum Reporting Standards for Nonsimulcast Stations, the second station may be included in the Report if:

- a. It independently meets the criteria required under paragraphs (a) and (b) of “Minimum Reporting Standards for Nonsimulcast Stations,” above; *and*
- b. It achieves a Metro Average Quarter-Hour rating of 0.05 or greater (DMA Average Quarter-Hour rating of 0.05 or greater for DMA qualification) for any one of the following four Monday-Friday dayparts: 6AM-10AM, 10AM-3PM, 3PM-7PM, 7PM-MID.

90.5 Percent or More

The two stations are considered totally simulcast stations for MRS purposes and are treated as one station under all the MRS criteria. Consequently, so long as both stations receive at least one Metro diary mention (or DMA diary mention in markets that qualify for DMA reporting) during the 7-day/24-hour time period,² if the combined audience of the two stations is sufficient to meet all MRS for Nonsimulcast Stations, then both stations will be listed in the Report, even though one (or both) stations might not meet the MRS criteria if considered individually.

Station Information

In order to ensure that the radio listening reported in Arbitron diaries is processed appropriately, Arbitron strives to collect and maintain current programming and facilities information for all commercial and noncommercial radio stations. Such information is primarily obtained from the stations and the FCC; however, Arbitron may also reference broadcast industry trade publications, notices and other sources.

The Station Information Packet (SIP) is Arbitron's primary vehicle for collecting and updating station information. The SIP mails to all radio stations seven weeks prior to the beginning of each survey, and contains the Station Information Form (see example on page 38), a Programming Schedule and a Sports Programming Schedule. Completed forms are due back to Arbitron four weeks prior to the beginning of the survey so that internal files can be updated, as necessary. Note: Station information on file with Arbitron generally carries over from one survey to the next; exceptions are simulcast times and programming schedules, which are not carried over and must be submitted every survey.

² Does not mean that a 90.5%+ simulcast station must have a Metro mention in order to be listed in the Metro section of the Report or a DMA mention in order to be listed in the DMA section of the Report. It simply means that both stations must have a diary mention in at least one of the reporting areas for which stations must qualify (Metro or, in some cases, DMA) in order for them to be considered together in the MRS process.

For the convenience of Report users, selected station facilities and other nonaudience information is provided on the Station Information page(s) of each Market Report for *qualifying stations only*. Included is the following information, as reported to Arbitron:

- Call letters
- Frequency
- Simulcast partner (if applicable)
- Mailing address
- Phone numbers (voice/fax)³
- Format
- National sales representative (one)
- Network affiliation(s) (two)
- City of license/alternate city, county and state⁴
- Day/night power for AM stations
- Effective Radiated Power (ERP) and Height Above Average Terrain (HAAT) for FM stations

Station subscribers to a given Arbitron Radio Market Report as of the release-to-print date are identified by the parenthetical symbol “(s)” next to their call letters on the “Station Information” page(s) of the Report. Station subscribers are also listed together in alphabetical order at the front of the report, although late additions to the list may be out of alphabetical order.

Reported Call Letters

Arbitron maintains a call letter history based on information provided by radio stations and the FCC. Reported call letters are the FCC or other legally authorized call letters in use on the last day of the survey as reported to Arbitron. Call letter designations exceeding four characters are shortened to four characters. For stations which have changed call letters during the survey period, the first call letters listed in the Report are those in use on the last day of the survey, with the station’s immediately previous call letters noted below them. In the event of exchanges of

frequencies between stations in a market, the call letters under which audience estimates are 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 and Station Activities” page of the applicable Radio Market Report.

City Identifiers and Metro Home Status

Radio stations are required to identify their FCC city of license on the air at regular intervals. If a station chooses to identify with an alternate city, as well, FCC rules require that the FCC city of license be identified first.

Arbitron recognizes alternate city identifiers to the extent that both city identifiers will be listed on the Station Information page of the Market Report, with the FCC city listed first, provided that the station:

- Submits the alternate city ID on its Station Information Form for the applicable survey; and
- Uses the FCC city and the alternate city together in a station identifier at least once per hour throughout the survey period.

Metro Home Status

Stations which are FCC-licensed to a city located within an Arbitron radio Metro are generally reported as “home” to that Metro. In addition, a station which is not FCC-licensed to a Metro city but which identifies with a Metro city may be listed as home to the Metro (or “above-the-line”) in that market’s Report if it:

- Uses its FCC city and its alternate city ID together in a station identifier at least once per hour throughout the survey period; and
- Specifically requests Metro home status by contacting Arbitron’s Radio Station Relations group.⁵

³ Stations may request that their phone numbers not be listed.

⁴ If a station is not licensed to the Metro but requests and qualifies for home status in the Metro (see “City Identifiers and Metro Home Status” and “Reporting Sequence,” below), the FCC city of license and alternate city of identification will appear in < > indicating that the station’s home status is based on its Alternate City ID, rather than on its legally authorized city of license.

⁵ See page 25 for mailing address.

If two stations are partially or totally simulcast and one of the two stations is a home station, both may be treated as home stations. A station can be home to only one Metro. (The only exception is a station licensed to a Metro which is embedded in another Arbitron Metro.)

DMA Home Status

A station which is FCC-licensed to a city located in a particular DMA is considered home to that DMA. There are no other home-to-DMA guidelines.

Reporting Sequence

Stations are listed in Radio Market Reports alphabetically by call letters (except as noted below) according to the survey areas(s) (Metro and DMA, if applicable) to which they are “home,” as follows:

For Market Reports containing Metro and TSA estimates only, the listing sequence is:

- Stations Home to Arbitron Radio Metro
- Stations Outside Arbitron Radio Metro

For Market Reports containing Metro, TSA and DMA estimates, the listing sequence is:

- Stations Home to Arbitron Radio Metro
- Stations Outside Arbitron Radio Metro but Home to the DMA
- Stations Outside Arbitron Radio Metro and the DMA

Home stations are separated from outside stations by a dashed line, with home stations listed “above-the-line” and outside stations listed “below-the-line.”

Stations which have engaged in activities determined by Arbitron to have Rating Bias or Rating Distortion potential may be listed out of sequence at the bottom of the page below another special dashed line (also known as being listed “below-the-line”). (See Chapter Nine, “Rating Distortion/Rating Bias Policies and Procedures.”)

Foreign stations are listed below U.S. stations within the Home/Outside reporting classifications described above.

The station sequencing described above and in the next section (“Simulcast Reporting”) is maintained for all reported stations throughout all audience sections of the Radio Market Report.

Simulcast Reporting

“Station Information” Page

Stations that simulcast 9.5 percent or more during the Monday-Sunday 6AM-Midnight daypart are listed on the “Station Information” page of the applicable Radio Market Report(s) in alphabetical order within Home/Outside reporting classifications with the simulcast partner noted in parentheses next to the station’s call letters. Simulcast partners are further distinguished with the following indicators:

- * denotes 10 to 50 percent simulcasting
- † denotes 51 to 90 percent simulcasting
- ‡ denotes 91 to 100 percent simulcasting

“Special Notices and Station Activities” Page

Stations that simulcast 9.5 percent or more during the Monday-Sunday 6AM-Midnight daypart are listed on the “Special Notices and Station Activities” page of the applicable Radio Market Report(s), along with a notation of the dayparts for which they simulcast 100 percent of the daypart.

Station Lineup

If two stations simulcast 9.5 percent or more during the Monday-Sunday 6AM-Midnight daypart, the stations are reported in the following order throughout the applicable Radio Market Report(s):

- For AM/FM simulcast partners, the AM station is listed in alphabetical sequence within the Home/Outside reporting classifications, with its FM simulcast partner listed immediately below it;
- For same-band simulcast partners, the station which comes first alphabetically is listed in alphabetical sequence within the Home/Outside reporting classifications, with its simulcast partner listed immediately below it.

Broadcast Hours

Arbitron uses one broadcast schedule (that is, one set of sign-on/sign-off/simulcast times) for all 12 weeks of each Radio Market Report. For non-24-hour stations, Arbitron uses the sign-on/sign-off times reported for the month closest to December and the shortest broadcast day within that month as provided by the affected station. Following are the specific months for which broadcast times are requested in the quarterly Station Information Packets:

Survey	Month (Time)
Winter	January (Standard Time)
Spring	April (Daylight Saving Time)
Summer	September (Daylight Saving Time)
Fall	December (Standard Time)

Local time differences within a market that overlaps time zones are accounted for by adjusting to the time observed by the majority of counties in the Metro of the particular market.

Audience estimates are adjusted for the station's reported broadcast schedule. Stations broadcasting for less than an entire reported daypart must be on the air for a minimum of four quarter-hours on each day of the applicable daypart in order to be reported in that daypart; such stations are indicated by a footnote symbol next to the station's call letters or audience estimates.

When a station changes sign-on/sign-off times during an Arbitron survey period, the times used in determining audience estimates are those which were in effect on the last day of the station's operation during the survey period as reported to Arbitron.

Stations must notify Arbitron in writing of any changes in the station's sign-on/sign-off times as soon as they occur but no later than the day after the last day of the survey; changes in a reported station's daytime or 24-hour status will be noted on the "Special Notices and Station Activities" page of the Report.

Technical Difficulties

Generally, no adjustments are made to either diary entries or reported audience estimates for periods of technical difficulty. The notation of technical difficulties on the "Special Notices and Station Activities" page is only to assist the users in making their own evaluation of the reported audience estimates. Arbitron will accept information on technical difficulties up to the day after the last day of the survey.

Station Information Form - Example

AM STATION INFORMATION - ARBITRON RADIO														
CALL LETTERS:		DAY POWER:		NIGHT POWER:		Your STATION NAME, which appears below, must meet the Station Name guidelines listed on page 8. If your Station Name does not meet these guidelines, or if you have updated your Station Name, please line through the preprinted Station Name and enter the correct Station Name in the boxes below (28 Character Limit). <div style="border: 1px solid black; width: 200px; height: 1.2em; margin: 2px 0;"></div>								
FREQUENCY:														
NETWORK AFFILIATION(S): <small>(LIMIT OF 3 PER STATION)</small>														
STATION REP:														
SIMULCAST WITH:		-AM/FM (CIRCLE BAND)				STATION NAME CURRENTLY ON FILE								
CITY IDENTIFIER:				COUNTY OF LICENSE:										
		<small>(FOR CITY/ALTERNATE CITY OF ID. MAXIMUM OF TWO ACCEPTED)</small>												
SEPTEMBER BROADCAST TIMES														
Broadcast Schedule (In Military Time - 0500-0500 depicts a 24 hour day) To indicate changes please line out and enter correction														
CURRENTLY ON FILE	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY		SUNDAY	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Simulcast Schedule (In Military Time) SIMULCAST TIMES														
Please enter times stations actually simulcast														
	MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY		SUNDAY	
	START	STOP	START	STOP	START	STOP	START	STOP	START	STOP	START	STOP	START	STOP
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>If you would like to change the format listed on file for your station, please select the appropriate format from the attached format list, line out the format listed above, and replace with the appropriate format.</p> <p>Please check the appropriate box:</p> <p><input type="checkbox"/> List phone number and fax number in the Radio Market Report (provided station meets Minimum Reporting Standards).</p> <p><input type="checkbox"/> Do NOT list phone number and fax number in the Radio Market Report.</p> </div> <div style="width: 45%;"> <p>Please sign below to let us know that you have reviewed the information on this form for accuracy and so that we may call you if we have questions.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: right;">SIGNATURE _____</p> <p>NAME _____</p> <p>TITLE _____</p> <p>DATE _____</p> <p>PHONE _____</p> <p>FAX _____</p> </div> <p style="text-align: right; margin-top: 10px;">PLEASE PRINT OR TYPE</p> </div> </div>														
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>ARBITRON</p> </div> <div style="width: 45%;"> <p>In the envelope provided, please return this form together with the others in this packet. Further updates should be forwarded to: Attn: Radio Station Relations, 9705 Patuxent Woods Drive, Columbia, Maryland 21046-1572.</p> <p style="text-align: right;">THANK YOU FOR YOUR HELP</p> </div> </div>														

Rating Distortion/Rating Bias Policies and Procedures

In accordance with EMRC 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 the audience estimates contained in the "Listener Estimates" sections of the Report.

Arbitron's original policy statement dated May 20, 1977, has been updated by Arbitron releases of February 1978, December 1981, January 1987, February 1988, June 1992 and handbooks of May 1985, March 1987, June 1990 and October 1996, distributed to all radio stations.

As a practical matter, Arbitron's published guidelines cannot describe all possible station activities. Therefore, *in order to avoid possible citation, stations are advised to submit planned activities to Arbitron for a confidential Pre-Review.*

Rating Distortion

Rating Distortion is defined as: Any station activity which Arbitron believes may affect the way in which diarykeepers record their listening, so that recorded listening differs from actual listening; or, which has the potential to result in a station having access to current survey diaries and/or the identity or whereabouts of current or future diarykeepers; or, which may result in a diary being used by any person, in any manner, for any purpose, other than those originally intended by Arbitron. ARBITRON MAY DELIST FROM ITS REPORTS, COMPUTER TAPES AND OTHER SERVICES THE CALL LETTERS AND AUDIENCE ESTIMATES FOR STATIONS THAT HAVE ENGAGED IN ACTIVITIES DETERMINED BY ARBITRON TO HAVE RATING DISTORTION POTENTIAL.

Rating Distortion may take the form of Diarykeeper Solicitation, Improper Promotional Activities or other means. The following categories and examples are illustrative only and are not all-inclusive:

Diarykeeper Solicitation is any attempt by, or on behalf of, a station to directly encourage the recording of listening other than actual listening. It may take the form of a public or private appeal for diarykeepers to surrender their diaries or to misreport – in any way (e.g., overstate, understate, misstate) – their actual listening to any station. Diarykeeper Solicitation includes attempted breaches of diary security, whereby a station has the potential to learn the identity of diarykeepers or to gain access to, or influence over, current or upcoming survey diaries.

Improper Promotional Activities are those which may not directly appeal to diarykeepers but which may nevertheless cause diarykeepers to misreport their actual listening. Improper Promotional Activities include, but are not limited to, contests which may cause diarykeepers to misreport their actual listening by offering prizes based on amounts of listening recorded or claimed; attempts to cause diarykeepers to lose their anonymity; promotions which might cause a diarykeeper to surrender a diary in trade for a prize or for cash.

Rating Distortion is sometimes confused with "hypoing." Rating Distortion involves station activities that may cause diarykeepers to report listening which differs from their actual listening. Hypoing refers to station activities designed to prompt more actual listenership during the survey period. Rating Distortion is cited under Arbitron's Special Station Activities guidelines; hypoing is not.

Rating Distortion Violations

Rating Distortion violations may result in: the station's call letters and audience estimates being delisted from the applicable report(s) and other services; or the station's call letters and estimates being placed out of alphabetical sequence at the bottom of each applicable page below a distinguishing line ("below-the-line"); and/or the activity being noted on the Special Notices and Station Activities page of the Report and possibly also on the cover of the Report. Appropriate notice may also be made for other applicable services.

Rating Bias

Rating Bias is defined as: Any announcement, statement or activity which could alert, sensitize or remind diarykeepers or potential diarykeepers about past, current or future surveys in any way which might affect participation in a current or future survey. Such activities may interfere with the objectivity or conduct of the survey and may take the form of announcements or statements on air, in print or in any other medium.

Rating Bias activities include survey announcements which may be preplanned, repeated or stylized messages which may alert listeners to the survey, regardless of whether the words "Arbitron" or "diary" are used, and/or may urge listeners to "be accurate" in reporting their listening. Rating Bias also includes activities which contain language or graphics suggestive of the survey. Rating Bias may also take other forms, such as a contest or research activity if, in Arbitron's opinion, the activity may sensitize the diarykeeper to Arbitron surveys.

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

Extemporaneous Comments: Arbitron may cite as Extemporaneous Comments any reference on the air or in any other medium which mentions or alludes to a past, current or future Arbitron survey, diary(ies) or radio ratings in any way which might sensitize diarykeepers to a current or future survey or which may affect the way in which diarykeepers report their listening in a current or future survey.

The circumstances surrounding a reference will generally affect Arbitron's decision on whether to cite that reference as Extemporaneous Comments. As the name implies, Extemporaneous Comments are generally one-time-only, spontaneous remarks, which may have been intended as humorous. 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, spontaneous or humorous remark.

Rating Bias/Extemporaneous Comments Violations

Rating Bias violations or violations cited as Extemporaneous Comments may result in the station's call letters and audience estimates being placed at the bottom of each page below a distinguishing line ("below-the-line"); and/or the activity being noted on the Special Notices and Station Activities page of the Report and on the cover of the Report. Appropriate notice may also be made for other applicable services. In the event of repeated or serious Rating Bias or Extemporaneous Comments violations as determined by Arbitron, a station's call letters and audience estimates may be delisted in applicable reports and other services.

General Information

General information with respect to Rating Distortion and Rating Bias:

- a. 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 tape, direct-mail advertisement or newspaper clipping. Requests will be accepted up to the day after the last day of the survey, and should be addressed to: *Radio Special Station Activities Committee, The Arbitron Company, 9705 Patuxent Woods Drive, Columbia, MD 21046-1572.*
- b. The initiation of an inquiry at any time is solely within the discretion of Arbitron.
- c. Arbitron will review activities conducted at any time (not just during, or four weeks prior to, a survey) for compliance with these guidelines if, in Arbitron's judgment, the activity has the potential to undermine the credibility 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.
- d. Activities by stations not meeting Arbitron's Minimum Reporting Standards for a syndicated Market Report may still be subject to citation in any applicable custom report or other Arbitron service.
- e. Activities cited for one simulcast station may also be cited for the other simulcast station.
- f. Activities found to be in violation of these guidelines 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 violating these guidelines are inherently detrimental to the broadcast, advertising and audience measurement industries. The fact that such activities occurred undermines confidence in audience estimates.

Arbitron reserves the right to use any available means to draw attention to any station activity which, in Arbitron's opinion, has the potential to undermine the credibility of the survey even though such 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.

Industry Statements

American Association of Advertising Agencies

"The American Association of Advertising Agencies (AAAA) Media Research Committee opposes any attempt in any medium to distort results of any audience measurement survey... By encouraging daily recording or reporting of radio listening activity, [stations] may be sensitizing the public and thereby contributing to rating distortion or inflation. The AAAA Media Research Committee takes violations of rules against distorting practices, as described by rating services, seriously."

Arbitron Radio Advisory Council

"The Arbitron Radio Advisory Council (ARAC) is very concerned about the continued practice of station activities that are intended to distort ratings data...we strongly recommend that Arbitron take serious action against anyone who violates the accredited standards. Likewise, special treatment should be taken when judging stations that repeatedly break this policy after prior warning."

Electronic Media Rating Council and National Association of Broadcasters

"The National Association of Broadcasters (NAB) is joined by the Electronic Media Rating Council (EMRC) in condemning the activities engaged in by some broadcast stations that intentionally distort [or bias] legitimate audience surveys... practices specifically targeting survey respondents

severely detract from the reliability and the validity of audience research. Stations that engage in these practices negatively affect the research results, which in turn influences the credibility and value of audience research in an increasingly competitive media marketplace.”

Radio Advertising Bureau

“The Radio Advertising Bureau (RAB) GOALS Committee condemns any practices by radio stations designed to intentionally bias or cause distortion of the listening estimates reported by the ratings companies...they harm the credibility and value of the audience research, thereby impairing the ability of advertisers to buy efficiently and intelligently to the detriment of all radio stations,... [and] the rating companies have adopted stern policies against these activities.”

Reliability of Arbitron Estimates

The accuracy of any survey result can be thought of as having two components:

Reliability refers specifically to sampling error, and **Validity** refers to nonsampling aspects of the survey such as the strengths and biases associated with the survey instrument, length of the survey, etc.

Arbitron estimates are subject to the statistical variances (sampling error) associated with all surveys which use a sample of the universe. They are also subject to certain nonsampling errors, limitations and qualifications.¹

This chapter is specifically concerned with *estimated reliability*, which can be defined as: how close the survey estimate comes 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 as the survey. It is important to keep in mind that although reliability measures how much confidence we can have in the statistical power of an estimate, it is not a measure of the validity of the estimate.

The statistical measure of sampling error is called *standard error*. The standard error of any estimate, applied to that estimate (plus and minus), 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 survey 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 other things equal, the smaller the standard error, the more reliable the estimate.

Quantifying Reliability of Audience Estimates

The standard error of a rating based on a simple random sample would be calculated as follows,

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

where:

- p = the rating
- q = 100 minus the rating
- n = sample size

If Arbitron surveys 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.) Nor are survey respondents – audience survey respondents in particular – asked just one question. Essentially, every respondent is asked hundreds of questions like the one above in order to produce one rating for each qualifying radio station for each daypart.

Since the Arbitron sample is not a simple random sample, the sample size is not a simple “n”; rather,

¹ Due to factors described in the “Limitations” section of Chapter Eleven, the accuracy of Arbitron audience estimates, data, reports and their statistical evaluators cannot be determined to any precise mathematical value or definition.

it is a quantity other than “n.” Therefore, the formula for computing the standard error of an Arbitron estimate would be expressed as follows:

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

where:

- p = the rating
- q = 100 minus the rating
- ESB = the Effective Sample Base²

Since “p” and “q” are virtually given, 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 computing the ESB for each audience estimate.

Arbitron Replication II: A Study of the Reliability of Radio Ratings³

In 1971, Arbitron responded to the challenge of the National Association of Broadcasters and the Broadcast Rating Council [now known as the Electronic Media Rating Council (EMRC)] 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 EMRC, 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.

² *Effective Sample Base (ESB): An estimate of the size of a simple random sample which 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.*

³ *For further reading on this topic, see the publication of this study, which is available upon request, and includes the results as well as the statistical methodology.*

Key results of the study include:

- Identification of a number of factors which affect ESB: multiple observations per respondent; number of respondents per household; survey area (Metro, TSA, DMA); weighting;
- Development of a model which 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 which could be applied to all radio audience estimates by any Market Report user.

The *Replication II* study, which was based on 19 markets, was later validated by the EMRC 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 EMRC.

Calculating the Standard Error of an Arbitron Estimate

Each Arbitron Radio Market Report contains two tables (Table A and Table B) which provide the information necessary to estimate the standard error of an Arbitron estimate. (See the end of this chapter for illustrations of both tables.)

Table A

Table A is the numerator of the standard error calculation. It contains the square root of the quantity (p•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•q) for a particular rating is the same as (p•q) for 100 minus the rating. For example: (p•q) for a rating of 57.2 (57.2•42.8) is the same as (p•q) for a rating of 42.8 (42.8 • 57.2).

Table B

Table B is the denominator of the standard error calculation. It contains the square root of the ESB for each estimate in the Listener Estimates section of the Radio Market Report by demographic, daypart and survey area 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 which was applied to discrete demographics within that age/sex/survey area); 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 a rating of 6.9 among Persons 25-54 in the M-F 6A-10A daypart. The reliability of the estimate would be assessed as follows:

- Table A value for rating of 6.9 is 25.35 (see page 46)
- Table B value for Persons 25-54 M-F 6A-10A is 92.57 (see page 47)
- One standard error (1.0 se) = $25.35/92.57 = 0.27$ (rounds to 0.3)
- 68 percent confidence interval (1.0 se) = $6.9 \pm 0.3 = 6.6$ to 7.2
- 90 percent confidence interval (1.64 se) = $6.9 \pm 0.5 = 6.4$ to 7.4

Additional examples and instructions can be found following Table A in the back of the Radio Market Report.

Arbitron Radio Reliability Table A and Table B

Pages 46 and 47 contain examples of Table A and Table B as they appear in the back of each Arbitron Radio Market Report. As noted above, Table A is the same for all markets and surveys. However, Table B contains data for only the survey areas (Metro, TSA, DMA) and estimates (applicable demos and dayparts) which appear in that particular Report.

Arbitron Radio Reliability Table A - Example

Arbitron Radio Reliability Tables

Table A																			
RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE	RATING	VALUE
0.1	3.16	5.1	22.00	10.1	30.13	15.1	35.80	20.1	40.07	25.1	43.36	30.1	45.67	35.1	47.73	40.1	49.01	45.1	49.76
0.2	4.47	5.2	22.20	10.2	30.26	15.2	35.90	20.2	40.15	25.2	43.42	30.2	45.91	35.2	47.76	40.2	49.03	45.2	49.77
0.3	5.47	5.3	22.40	10.3	30.40	15.3	36.00	20.3	40.22	25.3	43.47	30.3	45.96	35.3	47.79	40.3	49.05	45.3	49.78
0.4	6.31	5.4	22.60	10.4	30.53	15.4	36.09	20.4	40.30	25.4	43.53	30.4	46.00	35.4	47.82	40.4	49.07	45.4	49.79
0.5	7.05	5.5	22.80	10.5	30.66	15.5	36.19	20.5	40.37	25.5	43.59	30.5	46.04	35.5	47.85	40.5	49.09	45.5	49.80
0.6	7.72	5.6	22.99	10.6	30.78	15.6	36.29	20.6	40.44	25.6	43.64	30.6	46.08	35.6	47.88	40.6	49.11	45.6	49.81
0.7	8.34	5.7	23.18	10.7	30.91	15.7	36.38	20.7	40.52	25.7	43.70	30.7	46.12	35.7	47.91	40.7	49.13	45.7	49.81
0.8	8.91	5.8	23.37	10.8	31.04	15.8	36.47	20.8	40.59	25.8	43.75	30.8	46.17	35.8	47.94	40.8	49.15	45.8	49.82
0.9	9.44	5.9	23.56	10.9	31.16	15.9	36.57	20.9	40.66	25.9	43.81	30.9	46.21	35.9	47.97	40.9	49.16	45.9	49.83
1.0	9.95	6.0	23.75	11.0	31.29	16.0	36.66	21.0	40.73	26.0	43.86	31.0	46.25	36.0	48.00	41.0	49.18	46.0	49.84
1.1	10.43	6.1	23.93	11.1	31.41	16.1	36.75	21.1	40.80	26.1	43.92	31.1	46.29	36.1	48.03	41.1	49.20	46.1	49.85
1.2	10.89	6.2	24.12	11.2	31.54	16.2	36.85	21.2	40.87	26.2	43.97	31.2	46.33	36.2	48.06	41.2	49.22	46.2	49.86
1.3	11.33	6.3	24.30	11.3	31.66	16.3	36.94	21.3	40.94	26.3	44.03	31.3	46.37	36.3	48.09	41.3	49.24	46.3	49.86
1.4	11.75	6.4	24.48	11.4	31.78	16.4	37.03	21.4	41.01	26.4	44.08	31.4	46.41	36.4	48.11	41.4	49.25	46.4	49.87
1.5	12.16	6.5	24.65	11.5	31.90	16.5	37.12	21.5	41.08	26.5	44.13	31.5	46.45	36.5	48.14	41.5	49.27	46.5	49.88
1.6	12.55	6.6	24.83	11.6	32.02	16.6	37.21	21.6	41.15	26.6	44.19	31.6	46.49	36.6	48.17	41.6	49.29	46.6	49.88
1.7	12.93	6.7	25.00	11.7	32.14	16.7	37.30	21.7	41.22	26.7	44.24	31.7	46.53	36.7	48.20	41.7	49.31	46.7	49.89
1.8	13.30	6.8	25.17	11.8	32.26	16.8	37.39	21.8	41.29	26.8	44.29	31.8	46.57	36.8	48.23	41.8	49.32	46.8	49.90
1.9	13.65	6.9	25.35	11.9	32.38	16.9	37.48	21.9	41.36	26.9	44.34	31.9	46.61	36.9	48.25	41.9	49.34	46.9	49.90
2.0	14.00	7.0	25.51	12.0	32.50	17.0	37.56	22.0	41.42	27.0	44.40	32.0	46.65	37.0	48.28	42.0	49.36	47.0	49.91
2.1	14.34	7.1	25.68	12.1	32.61	17.1	37.65	22.1	41.49	27.1	44.45	32.1	46.69	37.1	48.31	42.1	49.37	47.1	49.92
2.2	14.67	7.2	25.85	12.2	32.73	17.2	37.74	22.2	41.56	27.2	44.50	32.2	46.72	37.2	48.33	42.2	49.39	47.2	49.92
2.3	14.99	7.3	26.01	12.3	32.84	17.3	37.82	22.3	41.63	27.3	44.55	32.3	46.76	37.3	48.36	42.3	49.40	47.3	49.93
2.4	15.30	7.4	26.18	12.4	32.96	17.4	37.91	22.4	41.69	27.4	44.60	32.4	46.80	37.4	48.39	42.4	49.42	47.4	49.93
2.5	15.61	7.5	26.34	12.5	33.07	17.5	38.00	22.5	41.76	27.5	44.65	32.5	46.84	37.5	48.41	42.5	49.43	47.5	49.94
2.6	15.91	7.6	26.50	12.6	33.18	17.6	38.08	22.6	41.82	27.6	44.70	32.6	46.87	37.6	48.44	42.6	49.45	47.6	49.94
2.7	16.21	7.7	26.66	12.7	33.29	17.7	38.17	22.7	41.89	27.7	44.75	32.7	46.91	37.7	48.46	42.7	49.46	47.7	49.95
2.8	16.50	7.8	26.82	12.8	33.41	17.8	38.25	22.8	41.95	27.8	44.80	32.8	46.95	37.8	48.49	42.8	49.48	47.8	49.95
2.9	16.78	7.9	26.97	12.9	33.52	17.9	38.34	22.9	42.02	27.9	44.85	32.9	46.98	37.9	48.51	42.9	49.49	47.9	49.96
3.0	17.06	8.0	27.13	13.0	33.63	18.0	38.42	23.0	42.08	28.0	44.90	33.0	47.02	38.0	48.54	43.0	49.51	48.0	49.96
3.1	17.33	8.1	27.28	13.1	33.74	18.1	38.50	23.1	42.15	28.1	44.95	33.1	47.06	38.1	48.56	43.1	49.52	48.1	49.96
3.2	17.60	8.2	27.44	13.2	33.85	18.2	38.58	23.2	42.21	28.2	45.00	33.2	47.09	38.2	48.59	43.2	49.54	48.2	49.97
3.3	17.86	8.3	27.59	13.3	33.96	18.3	38.67	23.3	42.27	28.3	45.05	33.3	47.13	38.3	48.61	43.3	49.55	48.3	49.97
3.4	18.12	8.4	27.74	13.4	34.07	18.4	38.75	23.4	42.34	28.4	45.09	33.4	47.16	38.4	48.64	43.4	49.56	48.4	49.97
3.5	18.38	8.5	27.89	13.5	34.17	18.5	38.83	23.5	42.40	28.5	45.14	33.5	47.20	38.5	48.66	43.5	49.58	48.5	49.98
3.6	18.63	8.6	28.04	13.6	34.28	18.6	38.91	23.6	42.46	28.6	45.19	33.6	47.23	38.6	48.68	43.6	49.59	48.6	49.98
3.7	18.88	8.7	28.19	13.7	34.38	18.7	38.99	23.7	42.52	28.7	45.24	33.7	47.27	38.7	48.71	43.7	49.60	48.7	49.98
3.8	19.12	8.8	28.33	13.8	34.49	18.8	39.07	23.8	42.59	28.8	45.28	33.8	47.30	38.8	48.73	43.8	49.61	48.8	49.99
3.9	19.36	8.9	28.47	13.9	34.59	18.9	39.15	23.9	42.65	28.9	45.33	33.9	47.34	38.9	48.75	43.9	49.63	48.9	49.99
4.0	19.60	9.0	28.62	14.0	34.70	19.0	39.23	24.0	42.71	29.0	45.38	34.0	47.37	39.0	48.77	44.0	49.64	49.0	49.99
4.1	19.83	9.1	28.76	14.1	34.80	19.1	39.31	24.1	42.77	29.1	45.42	34.1	47.40	39.1	48.80	44.1	49.65	49.1	49.99
4.2	20.06	9.2	28.90	14.2	34.91	19.2	39.39	24.2	42.83	29.2	45.47	34.2	47.44	39.2	48.82	44.2	49.66	49.2	49.99
4.3	20.29	9.3	29.04	14.3	35.01	19.3	39.47	24.3	42.89	29.3	45.51	34.3	47.47	39.3	48.84	44.3	49.67	49.3	50.00
4.4	20.51	9.4	29.18	14.4	35.11	19.4	39.54	24.4	42.95	29.4	45.56	34.4	47.50	39.4	48.86	44.4	49.69	49.4	50.00
4.5	20.73	9.5	29.32	14.5	35.21	19.5	39.62	24.5	43.01	29.5	45.60	34.5	47.54	39.5	48.89	44.5	49.70	49.5	50.00
4.6	20.95	9.6	29.46	14.6	35.31	19.6	39.70	24.6	43.07	29.6	45.65	34.6	47.57	39.6	48.91	44.6	49.71	49.6	50.00
4.7	21.18	9.7	29.60	14.7	35.41	19.7	39.77	24.7	43.13	29.7	45.69	34.7	47.60	39.7	48.93	44.7	49.72	49.7	50.00
4.8	21.38	9.8	29.73	14.8	35.51	19.8	39.85	24.8	43.19	29.8	45.74	34.8	47.63	39.8	48.95	44.8	49.73	49.8	50.00
4.9	21.59	9.9	29.87	14.9	35.61	19.9	39.92	24.9	43.24	29.9	45.78	34.9	47.67	39.9	48.97	44.9	49.74	49.9	50.00
5.0	21.79	10.0	30.00	15.0	35.71	20.0	40.00	25.0	43.30	30.0	45.83	35.0	47.70	40.0	48.99	45.0	49.75	50.0	50.00

Note: When a rating is greater than 50.0, use the value given for a rating equal to 100.0 minus the original rating. For example, if the rating were 87.3, use the value shown for a rating of 12.7 (100.0 - 87.3).

Instructions

Estimating the Reliability of Audience Ratings Estimates The reliability of a survey estimate is generally defined in terms of the estimated margin of sampling error around the estimate, or *confidence interval*. The confidence interval describes the extent to which a survey estimate, based on a random sample of a population, may vary from the result that would be obtained through a complete census of that population. (See Page M5, Paragraph 14, for further information.)

Confidence intervals can be obtained for any rating in the "Listener Estimates" section in this report in two steps: (1) determine an estimated standard error and (2) use this estimated standard error to construct a confidence interval around the rating.

1. Determine an estimate of standard error:

a. For AQH and Cume ratings, select the rating for which you want to obtain the standard error and locate the corresponding Table A value. For example, the corresponding Table A value for a 3.7 rating is 18.88. Table A values represent the square root of (the rating x [100 - the rating]); therefore, Table A values are constant across all markets and surveys.

b. For AQH ratings, select the demographic group (down the side) and the daypart (across the top) for the corresponding Table B value. For Cume ratings, select the demographic group (down the side) for the corresponding Table B value in the first column.

Table B values are the square roots of the Effective Sample Bases (ESBs) for each market and survey; therefore, Table B values vary from report to report. For example, a hypothetical Table B value for a Metro AQH rating for Men 18+, Mon-Fri 6AM-7PM might be 55.00.

c. Divide the Table A value by the Table B value to obtain an estimated standard error. Using the example above, $18.88 \div 55.00 = 0.34$.

2. Use the estimated standard error to construct a confidence interval around the rating:

a. The rating +/- one standard error will yield a 68% confidence interval. In the above example, 3.7 ± 0.34 yields a confidence interval of 3.36-4.04. Interpretation: The user can be 68% confident that a survey of all Men 18+ would yield a Mon-Fri 6AM-7PM AQH rating between 3.4 and 4.0.

b. The rating +/- (1.64 x the standard error) yields a 90% confidence interval. In the above example, $3.7 \pm (1.64 \times 0.34)$ yields a confidence interval of 3.14-4.26. Interpretation: The user can be 90% confident that a survey of all Men 18+ would yield a Mon-Fri 6AM-7PM AQH rating between 3.1 and 4.3.

c. The rating +/- (1.96 x the standard error) yields a 95% confidence interval (compute as in (b) above), and the rating +/- (2.58 x the standard error) yields a 99% confidence interval (compute as in (b) above).

Estimating Reliability for Projected Numbers of Persons To estimate standard error (and construct confidence intervals) for Persons estimates rather

than ratings: (1) Convert the Persons estimate into a rating. $(\text{Persons} \div \text{population}) \times 100$. (2) Determine standard error using the instructions above. (3) Convert standard error for the rating into standard error for the Persons estimate. $(\text{Standard error} \times \text{population}) \div 100$. (4) Use the Persons estimate +/- one standard error for a 68% confidence interval; use the Persons estimate +/- the standard error multiplied by 1.64, 1.96 or 2.58 to get 90%, 95% or 99% confidence intervals, respectively.

Estimating Effective Sample Base (ESB) Sizes/ Approximate ESB for sex/age groups and dayparts can be obtained by squaring Table B values. For example, the estimated ESB for M18+, M-F 6AM-7PM, with a hypothetical Table B value of 55.00 would be 55.00 squared, or 3025 (See Page M5, Paragraph 15, for further information on ESB values.)

For Additional Methodology Details

Please reference *Description of Methodology for Radio and Arbitron Replication II: A Study of the Reliability of Radio Ratings* for further discussion of the above and a discussion of more complex applications.

Limitations

Although Arbitron believes the above-described procedures provide report users with useful estimates of standard errors, the reader should note the limitations described in Paragraphs 14-16 and 18-21 herein on Pages M5-M6.

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Arbitron Radio Reliability Table B – Example

Metro Table B											
Average Quarter-Hour Estimates											
Metro Survey Area	All Cume Estimates	Sat 6A-10A Sat 3P-7P Sun 6A-10A Sun 3P-7P	Weekend 10A-7P	Sat 10A-3P Sat 7P-MID Sun 10A-3P Sun 7P-MID	Mon-Fri 6A-10A Mon-Fri 3P-7P	Mon-Fri 10A-3P Mon-Fri 7P-MID	Weekend 6A-MID	Mon-Fri 6A-10A + 3P-7P	Mon-Fri 6A-7P	Mon-Sun MID-6A	Mon-Sun 6A-MID
Persons 12+	62.47	93.93	114.49	92.97	116.57	117.67	137.66	137.99	128.18	141.99	148.02
Persons 18+	*****	*****	108.98	*****	*****	107.93	*****	131.63	*****	*****	141.20
Men 18+	45.53	*****	*****	*****	*****	*****	*****	*****	*****	*****	110.17
18-24	16.73	*****	*****	*****	*****	*****	*****	*****	*****	*****	48.81
25-34	21.99	*****	*****	*****	*****	*****	*****	*****	*****	*****	58.32
35-44	21.42	*****	*****	*****	*****	*****	*****	*****	*****	*****	53.78
45-54	20.26	*****	*****	*****	*****	*****	*****	*****	*****	*****	50.19
55-64	16.32	*****	*****	*****	*****	*****	*****	*****	*****	*****	44.04
65+	16.90	*****	*****	*****	*****	*****	*****	*****	*****	*****	36.85
12-24	23.91	42.11	*****	40.99	53.09	50.00	62.21	*****	56.05	*****	67.03
18-34	27.98	43.89	53.77	42.37	57.27	53.71	65.03	64.95	63.03	*****	73.66
18-49	37.98	58.93	68.79	57.11	74.72	68.53	83.19	83.09	80.63	*****	94.23
25-49	34.65	52.47	*****	51.71	66.10	61.09	77.78	*****	67.79	*****	83.60
25-54	36.84	55.04	67.46	54.70	69.67	64.08	81.59	75.83	71.10	*****	87.68
35-64	33.85	49.47	62.47	50.51	64.16	59.52	75.55	70.22	65.84	*****	81.20
Women 18+	49.72	*****	*****	*****	*****	*****	*****	*****	*****	*****	114.30
18-24	17.60	*****	*****	*****	*****	*****	*****	*****	*****	*****	47.70
25-34	23.62	*****	*****	*****	*****	*****	*****	*****	*****	*****	60.50
35-44	24.85	*****	*****	*****	*****	*****	*****	*****	*****	*****	64.09
45-54	21.20	*****	*****	*****	*****	*****	*****	*****	*****	*****	50.34
55-64	18.10	*****	*****	*****	*****	*****	*****	*****	*****	*****	43.21
65+	20.10	*****	*****	*****	*****	*****	*****	*****	*****	*****	45.50
12-24	25.39	41.61	*****	41.13	50.90	51.74	62.40	*****	55.47	*****	64.98
18-34	29.76	45.85	56.61	44.28	57.91	56.10	68.75	64.27	61.48	*****	74.60
18-49	40.77	62.51	75.33	61.05	77.93	74.75	91.48	85.52	81.81	*****	99.26
25-49	38.22	56.72	*****	56.59	71.91	68.42	85.01	*****	77.91	*****	91.83
25-54	40.59	59.59	73.30	59.52	75.73	71.27	89.02	85.34	81.59	*****	96.17
35-64	37.77	54.71	66.16	54.78	68.88	65.72	80.34	77.02	73.64	*****	86.79
Persons 12-24	32.93	53.80	*****	53.06	66.70	64.74	78.76	*****	72.82	*****	84.69
18-34	38.28	59.08	73.45	57.16	75.32	72.79	88.50	88.71	81.82	*****	95.16
18-49	51.62	78.73	95.76	76.62	98.16	92.98	115.39	115.66	106.67	*****	124.07
25-49	46.82	70.18	*****	69.57	88.11	83.24	103.53	*****	95.71	*****	111.32
25-54	49.55	73.40	90.79	73.20	92.57	87.32	109.39	109.66	101.13	*****	117.63
35-64	46.12	66.58	83.16	67.31	85.33	81.26	100.20	100.44	92.63	*****	107.74
Teens 12-17	23.39	38.31	*****	39.04	52.38	57.90	59.53	*****	63.32	*****	69.06
Black P12+	26.99	*****	*****	*****	*****	*****	*****	*****	*****	*****	63.96
Hispanic P12+	21.03	*****	*****	*****	*****	*****	*****	*****	*****	*****	49.84

***** Report does not include data for this demographic group

TSA Table B		
Total Survey Area	All Cume Estimates	Mon-Sun 6A-MID*
Persons 12+	76.94	178.91
Men 18-34	34.66	91.00
25-54	45.05	104.68
35-64	41.66	98.40
Women 18-34	35.80	89.40
25-54	49.23	116.28
35-64	45.63	105.27
Persons 18-34	46.74	116.62
25-54	60.53	140.69
35-64	56.30	130.53

* Average Quarter-Hour Estimates

DMA Table B							
Designated Market Area	All Cume Estimates	Sat 6A-10A Sat 3P-7P Sun 3P-7P	Sat 10A-3P Sat 7P-MID Sun 10A-3P	Mon-Fri 6A-10A Mon-Fri 3P-7P	Mon-Fri 10A-3P Mon-Fri 7P-MID	Mon-Fri 6A-7P	Mon-Sun 6A-MID
Persons 12+	58.68	95.86	94.14	119.74	115.41	143.33	156.79
Men 18-34	29.40	45.00	43.79	58.13	54.33	63.86	77.17
18-49	39.96	59.71	58.56	75.03	69.91	81.60	96.55
25-49	35.88	53.68	53.32	67.24	64.02	69.98	87.64
25-54	38.18	56.33	56.24	71.16	67.22	73.59	90.98
35-64	35.07	50.76	51.84	66.11	61.98	68.20	80.72
Women 18-34	30.79	47.58	45.64	59.87	58.47	63.83	78.09
18-49	42.96	64.37	62.57	80.44	77.94	84.87	103.64
25-49	39.40	58.04	58.09	74.48	71.87	81.27	99.08
25-54	41.86	60.87	60.88	77.93	74.48	84.60	103.29
35-64	38.93	56.80	56.40	70.82	69.73	76.90	93.19
Teens 12-17	24.97	40.06	40.56	54.38	59.54	65.43	73.03

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To the extent that any provisions contained in this *Arbitron Radio Description of Methodology* are inconsistent or conflict with any provision contained on the Special Notices and Station Activities page of the Radio Market Report, such Special Notices are deemed to supersede and/or amend this *Arbitron Radio 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 “hypoing.”

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 *Arbitron Radio Description of Methodology*, the user should be aware of the following limitations:

- a. The sample is drawn from telephone households. Persons in nontelephone households are thereby excluded from the sample frame. Known commercial establishments and other known nonresidential facilities listed in directories are specifically excluded from the sample frame. Steps are taken during diary placement calling to further exclude: business or other nonresidential telephone numbers inadvertently included in the sample; media-affiliated households; residents of group quarters and households containing 10 or more individuals. All possible local telephone listings may not be included in the directories available to Metromail Corporation when Arbitron places its sample order, which may affect the identification of qualifying telephone hundred blocks from which Arbitron's sample frame is developed. Such excluded persons may have listening habits which differ from those of eligible respondents.
- b. Effort is made to exclude households with a 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 the diary placement call.
- c. There may be instances where Arbitron instructions are not followed by the interviewer. Also, the interviewer may not be under the direct control of Arbitron, as independent marketing research suppliers are used by Arbitron.
- d. Nonresponding persons may have listening habits which 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, persons in certain

income or education groups or persons whose primary language is other than English. Such persons may have radio listening habits which differ from other persons.

- g. The limitations in data from Market Statistics are inherent in the Arbitron estimates based thereon. The population estimates from Market Statistics used in weighting the sample are based upon the most recent available 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 Market Statistics 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.
- h. Zip code information (including information supplied by diarykeepers) used to produce the Radio Market Report is subject to defects and limitations which are inherent in Arbitron estimates based thereon.
- i. Diaries, or portions thereof, may be completed improperly if the diary instructions are not understood or 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.
- j. Human and computer processing errors may occur before or after the diaries are received by Arbitron. Consequently, the degree of variance in the data may be greater than that expected from sampling variance alone.
- k. The data upon which Arbitron has based its in-tab sample weighting, including racial or ethnic identification, may not be precise.
- l. Defects and limitations found in data supplied by others are inherent in Arbitron estimates based thereon.

m. 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.

n. Arbitron conducts research involving new methods of improving cooperation of diarykeepers and/or securing additional information from such persons. Occasionally, a portion of this research may be integrated with actual surveys 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.

o. Certain data, such as when the station was on and off the air, facilities, call letters in effect, Station Name claimed, format, programming, sales representative, network affiliation(s) and time periods when stations were simulcast or separately programmed, 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.

p. Situations in which stations have or have had 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.

q. Rounding occurs at various stages in the calculation 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 in the Radio Market Report may produce a result which may be incongruent with estimates for broader dayparts and/or demographic groups also contained in the Radio Market Report.

r. 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.

Glossary of Terms

Alternate City of Identification: A city, other than its legally authorized city of license, with which a station may regularly ID. (See Chapter Eight, "Station Reporting.")

Ascription: A statistical technique that assigns diary credit based on the eligible stations' historical (previous available survey year) diary mentions in the county from which the diary was received. The diary mentions are transformed into probability ranges for the purpose of assigning credit. A random number is generated, and, within whichever station's range the number falls, that station receives credit.

Average Quarter-Hour Persons: The estimated *average* number of persons listening to a station during a particular daypart. For stations not on the air 24 hours/day, AQH Persons refers to the time the station was on the air during the particular daypart. This estimate, expressed in hundreds (00), is shown for the Metro, TSA and DMA in applicable Arbitron Radio Market Reports.

Average Quarter-Hour Rating: The Average Quarter-Hour Persons estimate expressed as a percentage of the appropriate estimated population. This estimate is shown for the Metro and DMA in applicable Arbitron Radio Market Reports.

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. This estimate is shown only for the Metro in Arbitron Radio Market Reports.

Below-the-Line Listing: Describes how a station's estimates are printed in a Radio Market Report. 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). (See Chapter Eight, "Station Reporting," and Chapter Nine, "Rating Distortion/Rating Bias Policies and Procedures.")

Condensed Radio Market Report (CRMR): One of two types of Arbitron Radio Market Report. Condensed Reports have smaller sample objectives for the Metro and TSA, and contain fewer dayparts and demographics, than Standard Radio Market Reports.

Consolidated Metropolitan Statistical Area (CMSA): Refers to a grouping of closely related Primary Metropolitan Statistical Areas, as defined by the U.S. government's Office of Management and Budget. (See Chapter One, "The Market.")

Cume Duplication: The percentage of estimated Cume Persons for one station that also listened to another station. This estimate is shown only for the Metro in Arbitron Radio Market Reports.

Cume Persons: The estimated number of *different* persons listening to a station during a particular daypart. (Cume estimates may also be referred to as "cumulative" or "unduplicated" estimates.) This estimate, expressed in hundreds (00), is shown for the Metro, TSA and DMA in applicable Arbitron Radio Market Reports.

Cume Rating: The Cume Persons estimate expressed as a percentage of the appropriate estimated population. This estimate is shown only for the Metro in Arbitron Radio Market Reports.

Daypart: A time period for which audience estimates may be reported (e.g., Monday-Sunday 6AM-Midnight, Monday-Friday 6AM-10AM, Monday-Friday 6AM-7AM).

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

Designated Market Area (DMA®): A.C. Nielsen's geographic market design which defines each television market exclusive of others based on measureable viewing patterns. Every county or split county in the United States is assigned exclusively to one DMA. (See Chapter One, "The Market.")

Designated Sample: Telephone numbers selected from the sample frame for a particular survey and determined by Arbitron to be usable.

Diarykeeper: An individual to whom survey materials were sent.

Diary Mentions: The number of different in-tab diaries in which a station received credit for at least one quarter-hour of listening.

Differential Survey Treatments (DST): Special survey procedures used to increase participation rates of targeted demographic groups (e.g., Black, Hispanic, Males 18-24, Males 25-34) which tend to be underrepresented in surveys. (See Chapter Three, "Survey Methods and Operations.")

Effective Radiated Power (ERP): Effective Radiated Power is used in conjunction with HAAT and the FCC's 50/50 curve to determine an FM station's reach in miles/meters.

Effective Sample Base (ESB): An estimate of the size of a simple random sample which 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. (See Chapter Two, "The Sample," and Chapter Ten, "Reliability of Arbitron Estimates.")

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

Ethnic Composition: Audience estimates for Total, Black and Hispanic Persons, expressed as Persons, Ratings and Black and Hispanic composition percents. Ethnic Composition estimates are based on total Metro in-tab diaries and are reported for the Metro of ethnic-controlled markets only if at least 30 Black and/or 30 Hispanic diaries, as appropriate, are in-tab for the Metro. (See Chapter Three, "Survey Methods and Operations.")

Ethnic Controls: The collective term for procedures designed to improve the representation of Black and Hispanic populations in Arbitron surveys. 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. (See Chapter Three, "Survey Methods and Operations.")

Exclusive Cume Audience: The estimated number of Cume Persons who listened to only one station within a reported daypart. This estimate is shown only for the Metro in Arbitron Radio Market Reports.

Flip: An automated edit procedure that recredits illegal call letters to a set of legal call letters based on a series of sequential logical steps. (See Chapter Four, "Diary Processing.")

Follow-Up Contact: A contact made to consenting households after the initial placement contact. The purpose may be to remind respondents to complete and return their diaries, answer any questions about filling out diaries or thank respondents for cooperating with the survey. (See Chapter Three, "Survey Methods and Operations.")

Frequency (Station): An AM or FM band designation assigned to a city service area and a licensee by the FCC or other regulatory authority.

Group Quarters Population: For Arbitron 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.

Height Above Average Terrain (HAAT): Antenna Height Above Average Terrain is used in conjunction with ERP and the FCC's 50/50 curve to determine an FM station's reach in miles/meters.

High-Density Area (HDA): A zip code-defined area which may be established in a county or split county within the Metro of an ethnic-controlled market. (See Chapter Three, "Survey Methods and Operations.")

Home Station: Generally, any station licensed to a city located within a particular Arbitron radio Metro (or DMA). A station that is not licensed to a city within an Arbitron radio Metro may nevertheless be granted "home" status if it meets certain criteria. (See Chapter Eight, "Station Reporting.")

In-Tab: The number of usable diaries tabulated in producing a Radio Market Report.

Listed Sample: Sample telephone numbers for which names and mailable addresses are known prior to diary placement calling. (See Chapter Two, "The Sample," and Chapter Three, "Survey Methods and Operations.")

Listening Locations: Locations for which audience estimates are reported (At Home, In Car, At Work, Other).

Market Totals: (See "MetroTotals/DMA Totals.")

Mentions: (See "Diary Mentions.")

Metro In-Tab/Target Index: The ratio of the number of Metro in-tab diaries to the Metro sample target, generally expressed as a whole number.

Metro Survey Area (Metro): The primary reporting area for local radio. Metro Survey Area definitions generally correspond to the federal government's Metropolitan Areas, subject to exceptions dictated by historical industry usage and other marketing considerations as determined by Arbitron. (See Chapter One, "The Market.")

Metro Totals/DMA Totals: Total reported listening to radio in the Metro or DMA (could refer to AQH or Cume estimates). Includes listening to reported stations, nonqualifying commercial stations, noncommercial stations, cable-only stations and unidentified stations.

Minimum Reporting Standards (MRS): Criteria used to determine which stations qualify to be listed in Arbitron Radio Market Reports. (See Chapter Eight, "Station Reporting.")

Network Affiliation: A contractual agreement between a radio station and a network in which the station agrees to broadcast network commercials and/or network programming of various types (e.g., news, talk, sports, music). Arbitron lists the network affiliations of 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.

One Percent (1%) In-Tab Criterion: An Arbitron radio procedure that establishes eligibility for listening credit where more than one station is listed for the same or similar Station Name, same network, same exact frequency, etc. A station meets the one-percent in-tab criterion if it was mentioned in at least one percent of the in-tab diaries from a given county during the previous available survey year. For crediting purposes, a "1% qualifying" station generally takes precedence over a "non-1%" station. Stations must meet the one-percent in-tab criterion in a particular county in order to be eligible for ascription.

Outside Station: A station which is not "home" to a particular Metro and/or DMA. (See Chapter Eight, "Station Reporting.")

Persons-Per-Diary Value (PPDV): The numerical value assigned to each in-tab diary for the purpose of projecting audience estimates to the entire 12+ population in a market. The PPDV reflects the number of persons 12+ in the reporting area represented by each in-tab diary after sample balancing has been performed. (See Chapter Six, "Sample Weighting.")

Prealerted Survey: A survey in which respondents are notified of their selection for the survey in advance of the actual data collection. This prenotification 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 prenotification of respondents.

Premium: A token cash amount mailed with each diary and with the follow-up letter to encourage diarykeepers to participate in the survey and to return their diaries to Arbitron. Premium amounts may vary. (See Chapter Three, "Survey Methods and Operations.")

Quarter-Hour: 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 listening to the station during a quarter-hour.

Radio Market Report (RMR): A syndicated Report for a designated market; also known as SRMR (Standard Radio Market Report) or CRMR (Condensed Radio Market Report).

Rating: The estimated percentage of the demographic population listening to a given station or to total radio during a specified time period. (See "Average Quarter-Hour Rating" and "Cume Rating.")

Reach (Station): The total counties in which Arbitron has determined that a specific radio station should be eligible for diary credit. This area includes counties within the station's signal penetration and may include additional counties if diarykeepers residing in those counties historically report listening to that station (typically due to commuting and travel patterns).

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 was 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. (See Chapter Ten, "Reliability of Arbitron Estimates.")

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

Response Rate: The proportion of originally designated sample persons who provide usable data for the survey. Response rates are determined by dividing the total number of in-tab (usable) diaries by the total estimated Persons 12+ in the designated sample. Typically, the result is expressed as a percentage.

Sample Frame: The universe from which potential respondent households are randomly selected. The sample frame for Arbitron radio surveys is designed to include households with telephones. (See Chapter Two, "The Sample.")

Sample Identification Number: A unique 12-digit number assigned to each diary.

Sample Target: The number of diaries that is the in-tab sample size objective for a particular survey area. (See Chapter Two, "The Sample.")

Sampling Unit: A geographic area consisting of a county, county equivalent or split county for which sample is separately ordered, selected and monitored. (See Chapter One, "The Market," and Chapter Two, "The Sample.")

Self-Mailer: A document which may be sealed or closed, but does not require an envelope, to be mailed. The Arbitron radio diary is a self-mailer.

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

Simulcast: The simultaneous broadcast of one station's total uninterrupted broadcast flow, including commercials, by a second station, without any variation except if the two stations choose to *separately but simultaneously* identify their call letters, frequency, Station Name and/or city of license. (See Chapter Eight, "Station Reporting.")

Split County: A portion of a county, consisting of one or more zip codes, which is recognized as a separate sampling unit for purposes of survey area definition or more discrete sample control. (See Chapter One, "The Market," and Chapter Two, "The Sample.")

Station Information Form: A computer-generated form that lists station information, including day power, night power (AM only), antenna height (FM only), frequency, sign-on/sign-off times, Station Name, network affiliation, format, one national sales representative (if any), and other information. Since simulcast times are not retained from survey to survey, space is provided for simulcast times (if any) to be filled in by the station each survey. The Station Information Form is part of the Station Information Packet, which is mailed to all stations in surveyed markets prior to each quarterly survey period. The information on the Station Information Form is used to credit diary entries, and serves as a basis for computing and reporting audience estimates. (See “Example,” page 38.)

Station Information Packet (SIP): A set of forms mailed by Arbitron to radio stations approximately seven weeks prior to each survey. The Station Information Packet contains the Station Information Form, a Programming Schedule, and a Sports Programming Schedule. (See Chapter Eight, “Station Reporting.”)

Station Name: A station’s most frequently used on-air identifier other than call letters or lone exact frequencies. (See Chapter Five, “Station Names.”)

Target Demographics: Demographic groupings of multiple discrete demographics, (e.g., Men 18-34, Women 18-49, Persons 25-54) as opposed to discrete demographics, (e.g., Men 18-24, Women 25-34).

Technical Difficulty (TD): Time period(s) of five or more consecutive minutes during the survey period in which a station listed in an Arbitron Radio Market Report 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. (See Chapter Eight, “Station Reporting.”)

Time Spent Listening (TSL): An estimate of the amount of time the average listener spent with a station (or total radio) during a particular daypart. This estimate, expressed in hours and minutes is shown only for the Metro in Arbitron Radio Market Reports.

Total Survey Area (TSA): A geographic area that includes the Metro Survey Area and may include additional counties. (See Chapter One, “The Market.”)

Unidentified Listening (UUUU): Listening reported in diaries that could not be credited to a specific station. (See Chapter Four, “Diary Processing,” and Chapter Five, “Station Names.”)

Universe (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 known prior to placement calling. (See Chapter Two, “The Sample,” and Chapter Three, “Survey Methods and Operations.”)

Unusable Diaries: Returned diaries determined by Arbitron to be unusable according to established criteria. (See Chapter Four, “Diary Processing.”)

Unusable Sample: Telephone numbers in the originally selected sample determined by Arbitron to be ineligible for survey participation for a variety of reasons, including (1) disconnected telephone; (2) nonresidential listing; (3) those who volunteer they reside in group quarters; (4) those who reside in households of 10 or more persons age 12 and older; and (5) those who state that a member of the household is media affiliated (in accordance with Arbitron’s definition). (See Chapter Two, “The Sample.”)

Frequently Used Abbreviations

AAAA	American Association of Advertising Agencies
AQH	Average Quarter-Hour
ARAC	Arbitron Radio Advisory Council
CMSA	Consolidated Metropolitan Statistical Area
CRMR	Condensed Radio Market Report
CSB	Client Service Bulletin
DOM	Description of Methodology
DST	Differential Survey Treatment
EDSR	Electronic Diary Storage and Retrieval
EMRC	Electronic Media Rating Council
ERP	Effective Radiated Power
ESB	Effective Sample Base
HAAT	Height Above Average Terrain
HDBA	High-Density Black Area
HDHA	High-Density Hispanic Area
MRS	Minimum Reporting Standards
MSA	Metropolitan Statistical Area
NAB	National Association of Broadcasters
NECMA	New England County Metropolitan Area
OMB	Office of Management & Budget
PMSA	Primary Metropolitan Statistical Area
PPDV	Persons-Per-Diary Value
PPH	Persons-Per-Household
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
TSA	Total Survey Area
TSL	Time Spent Listening
UUUU	Unidentified Listening

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