TECHNICAL CODE

SINGLE AUDIENCE MEASUREMENT

Draft for Public Comment

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Committee representation

This technical code was developed by Broadcast Technology Working Group of the Malaysian Technical Standards Forum Bhd (MTSFB), which consists of representatives from the following organisations:

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Media Prima Berhad

Medialab Alliance Sdn Bhd

Universiti Malaysia Sabah

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Foreword

This technical code for Single Audience Measurement ('Technical Code') was developed pursuant to Section 185 of the Act by the Broadcast Technology Working Group of the Malaysian Technical Standards Forum Bhd (MTSFB).

This Technical Code shall continue to be valid and effective from the date of its registration until it is replaced or revoked

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SINGLE AUDIENCE MEASUREMENT

0. Introduction

The Malaysian media landscape is experiencing a profound structural reconfiguration driven by digital convergence, platform diversification, and fundamental shifts in audience consumption behaviour. Conventional boundaries separating broadcasting, streaming, and digital media are increasingly porous since audiences now access content fluidly across linear television, Connected Television (CTV), Over-The-Top (OTT) platforms, web-based services, radio, audio streaming platforms, social media platforms, and mobile applications. While this convergence has significantly expanded content availability and user choice, it has simultaneously rendered audience measurement far more complex and methodologically contested.

Audience measurement systems in Malaysia have developed within platform-specific silos, employing distinct metrics, sampling techniques, and data infrastructures for television, radio, digital media, and emerging streaming environments. Such fragmentation has led to structural limitations, most notably the inability to accurately identify and deduplicate users across multiple platforms. Consequently, the same audience member may be recorded multiple times within parallel measurement systems, producing inconsistent, non-comparable, and occasionally inflated audience estimates. These distortions not only undermine confidence in audience data but also weaken market transparency, misinform advertising valuation, and constrain longitudinal media analysis.

In media ecosystems, audience data no longer serves solely as commercial currency for advertisers and broadcasters. It has evolved into a critical tool for media governance, policy formulation, and cultural accountability. The absence of a unified, cross-platform, and deduplicated measurement framework, therefore, constitutes a strategic challenge for Malaysia's media industry and regulatory institutions. Addressing this gap requires a transition towards a technically robust Single Audience Measurement (SAM) architecture, whereas one capable of integrating heterogeneous data sources, ensuring methodological coherence, and producing reliable audience intelligence for an increasingly fragmented media environment.

This Technical Code is intended for audience measurement providers and other organisations involved in the collection, processing, reporting, and use of audience measurement data.

1. Scope

This Technical Code specifies the minimum measurement requirements for Single Audience Measurement (SAM) across television, radio, and digital media platforms in Malaysia. It establishes a common framework for audience measurement to support consistent, reliable, and comparable audience measurement results for the broadcasting and advertising industries.

This Technical Code covers:

a) audience measurement systems;

b) audience measurement data processing;

c) data quality management;

d) reporting, information management, data protection, and governance;

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e) disclosure of external influences on audience measurement results; and

f) electronic delivery and third-party processor requirements.

2. Normative references

The following normative references are indispensable for the application of this Technical Code. For dated references, only the edition cited applies. For undated references, the latest edition of the normative references (including any amendments) applies.

Personal Data Protection Act 2010 (Act 709)

3. Abbreviations

For the purposes of this Technical Code, the following abbreviations apply.

See Annex A.

4. Terms and definitions

For the purposes of this Technical Code, the following definitions apply.

4.1 Achieved sample

Number of valid panel participants or other sample units that contribute usable data to the audience measurement results for a specified reporting period

4.2 Active participation rate

Proportion of recruited panel participants who contribute usable audience measurement data during a specified reporting period

4.3 Audience deduplication

The process of identifying and removing duplicate audience counts across datasets, platforms, devices, or measurement sources to estimate the unique audience reached.

4.4 Audience estimates

Statistical measures of audience size, characteristics, exposure, consumption, or behaviour derived from audience measurement data.

4.5 Audience measurement data

Data collected, received, generated, or derived to produce audience measurement metrics, estimates, and reports

4.6 Audience measurement metric

Quantitative measure used to assess, calculate, or report audience size, exposure, consumption, behaviour, or performance.

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4.7 Audience measurement provider

Organisation responsible for operating an audience measurement system and for producing, validating, or reporting audience measurement results.

4.8 Audience measurement system

Integrated arrangement of methodologies, measurement sources, technologies, processes, controls, and reporting mechanisms used to collect, process, validate, and report audience measurement data and results.

4.9 Census data

data collected from all measurable events, transactions, devices, users, or other units available within a defined measurement source, rather than from a sample of that source

4.10 Cross-platform audience measurement

Audience measurement across two or more media platforms using consistent metrics and documented methods for integration, calibration, and, where applicable, audience deduplication

4.11 Currency

Audience measurement results accepted by relevant industry stakeholders as the common basis for planning, buying, and selling media or advertising

4.12 Data fusion

Process of combining audience measurement data from two or more measurement sources to produce a unified audience measurement dataset.

4.13 Effective sample size

Sample size that reflects the statistical precision of the actual sample after accounting for sample design and weighting effects.

4.14 Establishment survey

Survey conducted to determine the size and characteristics of the measurement universe, establish population benchmarks, and support panel recruitment or control variables.

4.15 First-party data

Data collected directly by an organisation through interactions involving the products, services, applications, or media platforms that it owns or operates.

4.16 Frequency

Average number of qualified exposures generated by each unique individual, household, user, profile, or device included in reach during a specified reporting period.

4.17 Gross Rating Point (GRP)

Aggregate of rating points achieved by specified media content, an advertisement, or an advertising campaign during a specified reporting period.

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4.18 Imputation

Process of replacing a missing, invalid, or unacceptable data value with an estimated value in accordance with a documented method.

4.19 Invalid traffic

Traffic or media activity that does not represent valid human activity or otherwise fails the applicable quality criteria for inclusion in audience measurement counts.

4.20 Joint Industry Committee (JIC)

Industry body recognised by the relevant regulatory body and established to facilitate the coordination, governance, and operation of Single Audience Measurement. It may comprise representatives of broadcasters, advertisers, media agencies, independent experts, and media consultant..

4.21 Panel

A selected sample of individuals or households that is designed to represent the measurement universe and participates in audience measurement activities.

4.22 Qualified exposure

recorded exposure to media content or advertising that meets the defined qualification criteria for the applicable media platform, measurement metric, and reporting purpose. Qualified exposures may include qualifying listens and views and may be used to calculate Gross Rating Points (GRP)s.

4.23 Reach

The total number or percentage of unique individuals exposed to media content during a specified reporting period.

4.24 Reference data

Independently obtained or approved data used as a benchmark, control, or comparison basis for calibration, weighting, validation, classification, or analysis

4.25 Single Audience Measurement (SAM)

A nationally standardised audience measurement system that measures audiences across television, radio, and digital media platforms to produce a common audience measurement currency for industry reporting, media planning, advertising, and market analysis.

Integrated audience measurement framework that measures and reports audiences across television, radio, and digital media using consistent and comparable methodologies and metrics.

4.26 Tags

Identifier or code embedded in media content, advertising, a webpage, or an application to enable the collection, classification, or attribution of audience measurement data.

4.27 Third-party processor

Organisation or entity engaged to process, manage, store, analyse, or otherwise handle audience measurement data on behalf of another party.

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4.28 Time-shifted

Consumption of media content after its original scheduled broadcast, stream, or transmission time through recording, playback, catch-up, or similar functionality.

4.29 Weighting adjustments

Modification to a weighting factor or weighting procedure to improve representation of the measurement universe or reduce identified bias.

5. Audience measurement overview

This clause describes the audience measurement ecosystem, process, functional components, coverage framework and cross-platform measurement.

The SAM framework is technology-neutral and covers the applicable media platforms. The requirements for documentation, disclosure, validation and auditability are specified in Clauses 6 to 11.

The audience measurement ecosystem, process, functional areas, measurement coverage, and cross-platform measurement are described in this clause. The applicable media platforms are covered by a technology-neutral approach to SAM. Requirements for documentation, disclosure, validation, and auditability are specified in Clauses 6 to 11.

5.1 Audience measurement ecosystem

The audience measurement ecosystem comprises the stakeholders involved in collecting, processing, reporting and using audience measurement data across television, radio and digital media.

Stakeholders in the audience measurement ecosystem may include:

a) broadcasters;

b) digital media platforms;

c) audience measurement providers;

d) advertisers;

e) media agencies;

f) regulatory authorities; and

g) other industry stakeholders.

Figure 1 illustrates the audience measurement ecosystem.

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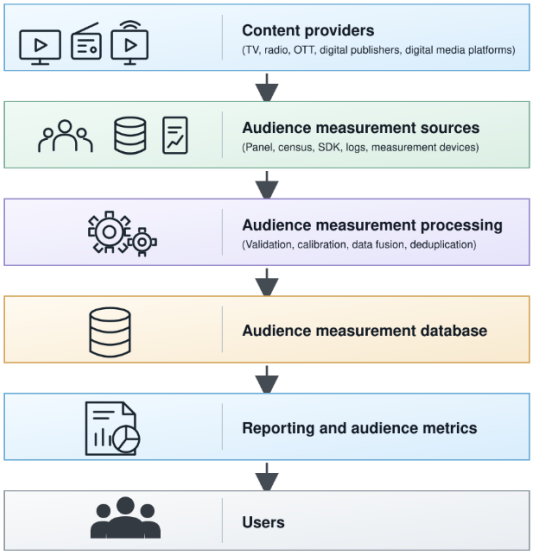

Figure 1. Typical audience measurement ecosystem

5.2 Audience measurement process

The audience measurement process converts source data into audience estimates and reports. It may use panel, census, first-party, platform, content metadata, Return-Path Data (RPD), and reference data, with the provenance, permitted use, quality controls, and limitations of each source documented.

The audience measurement process generally consists of the following activities, which are not necessarily performed in the sequence listed.

a) Data collection

i) Define the measurement universe, coverage, use cases, metrics, reporting levels, and data requirements.

ii) Design, recruit, and maintain any required panels and establish approved data-supply interfaces.

iii) Collect and ingest panel, census, first-party data, content metadata, RPD, and reference data.

b) Data validation

Check input data for completeness, validity, classification, anomalous activity, duplicates and missing records, and apply access controls.

c) Calibration

Calibrate and weight data against the measurement universe and control totals, and document adjustments for coverage gaps or bias.

d) Data fusion

Integrate and fuse eligible sources, perform identity resolution, data modelling, and deduplicate audiences across platforms using documented and empirically validated methods.

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e) Audience estimation

Calculate audience metrics, apply reporting thresholds, assess uncertainty where applicable, and perform quality assurance.

f) Reporting

Produce reports and disclose the methodology, material limitations, and revisions. Apply the governance and audit requirements in Clause 9.

5.3 Functional areas

The SAM covers activities and controls from data collection through to reporting and governance.

The functional areas are:

a) audience measurement system;

b) audience measurement data processing;

c) data quality management;

d) disclosure of external influences on audience measurement results;

e) electronic delivery and third-party processor controls; and

f) reporting, information management, data protection, and governance.

5.4 Measurement coverage

The audience measurement provider shall identify the media services, platforms, content types, devices, and screens included in audience measurement and reporting, including how streaming, social media, and emerging services are treated.

The audience measurement provider shall document the measurement coverage and review it periodically to account for changes in media consumption, technology, and industry requirements. Tables 1, Table 2, and Table 3 identify the platform, device, and content categories considered when determining measurement coverage.

Table 1. Media platforms coverage

Category	Examples
Broadcast television	Free-to-air television, subscription television
Broadcast radio	National, regional, and local radio services
Audio streaming services	Internet radio, music streaming services
Video streaming services	OTT, Advertising-Based Video on Demand (AVOD), Subscription Video on Demand (SVOD), and Broadcast Video on Demand (BVOD) services
CTV services	Smart Television (TV) and TV applications
Social media video platforms	User-generated content and professionally produced video content platforms
Digital publishing platforms	News websites, online content portals
Podcast services	Downloaded and streaming podcasts

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Table 2. Device coverage

Device Category	Coverage
Television sets	Included
Connected/smart TV	Included
Set-top boxes	Included
Radio receivers	Included
Smartphones	Included
Tablets	Included
Desktop computers	Included
Laptop computers	Included
Connected audio devices	Included
Gaming consoles	Optional
In-vehicle infotainment systems	Desired
Internet enable devices such as streaming devices	Included

Table 3. Content types

Content type	Coverage
Live television	Included
Time-shifted viewing	Included
On-demand video	Included
Live radio	Included
Time-shifted audio	Included
Podcasts	Included
Live streaming	Included
Selected user-generated video content	Selected
Short-form video content	Included
Advertising exposure	Included

5.5 Cross-platform audience measurement

Cross-platform audience measurement shall integrate data from two or more media platforms to provide a consolidated, reliable, and comparable view of audience behaviour across the defined measurement universe.

The audience measurement system shall support data integration, audience identification, deduplication, and reporting across participating platforms using documented methods. These methods shall minimise duplicate audience records and avoid double counting the same individual, household, user, or device where cross-platform exposure occurs.

The audience measurement provider shall apply consistent metrics, definitions, reporting periods, measurement units, and calculation methods across platforms. Any platform-specific assumptions, limitations, data gaps, or methodological differences that may affect comparability shall be documented and disclosed to authorised stakeholders.

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Where full person-level deduplication is not technically feasible, the audience measurement provider shall clearly disclose the deduplication approach, matching level, and known limitations. Cross-platform results shall be supported by sufficient documentation to enable review of the data integration, deduplication, and reporting processes.

For cross-platform reporting, the audience measurement system shall:

a) support the integration of audience measurement data across television, radio, digital media and other applicable media platforms;

b) apply documented and consistent methods for data matching, audience identification, deduplication, calibration, and weighting, where applicable;

c) identify duplicate audience records and avoid counting the same individual, user, household or device more than once for a metric at its defined matching level;

d) apply consistent audience measurement metrics, definitions, formulas, reporting periods and measurement units across platforms,

e) identify and disclose platform-specific limitations, assumptions, data gaps and methodological differences that may affect comparability;

f) support comparable and transparent audience measurement results for content audience, advertising exposure and cross-platform reporting; and

g) maintain sufficient documentation of cross-platform integration and deduplication processes.

6. Audience measurement system

This clause covers the measurement universe, panel design, sampling methodology, sample size, measurement technologies, and audience measurement metrics. An audience measurement system through which data are collected, validated, processed, and reported for platforms within the defined scope shall be established and operated by the audience measurement provider.

6.1 Measurement universe

The measurement universe shall be defined by the audience measurement provider as the population having access to the media being measured by the audience measurement system. The applicable residency criteria and media access eligibility shall be specified.

The measurement universe shall be documented and maintained by the audience measurement provider to ensure that it remains representative of the intended audience population.

Its segmentation shall be defined according to:

a) geographical coverage of the audience measurement activities, including national, regional, state, urban, rural or other applicable coverage levels;

b) demographic characteristics, including age, gender, ethnicity, household composition and other variables relevant to the measurement objectives; and

c) media platforms, services, devices and content types included in the audience measurement system.

The measurement universe shall be reviewed at documented intervals and following material changes in population demographics, media consumption, platform availability, or measurement scope.

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6.2 Panel design

The audience measurement panel shall be designed and maintained to represent the defined measurement universe and support reliable audience measurement across the applicable media platforms, services, devices, and content types. Variables used for stratification, recruitment, weighting, replacement, and ongoing panel maintenance shall be documented.

The following shall be included in the panel design, where applicable.

a) Geographical distribution, including national, regional, state or other applicable coverage levels.

b) Urban, suburban, rural, and remote locality, where applicable.

c) Demographic characteristics such as age, gender, ethnicity, and other variables relevant to the measurement objectives.

d) Household characteristics, such as household income category, household composition, media access, and subscription status.

The panel design should be reviewed periodically to ensure continued representativeness, with consideration given to panel attrition, recruitment effectiveness, changes in the measurement universe, and changes in media consumption behaviour.

6.3 Sampling methodology

A sampling methodology for the selection, recruitment, and maintenance of panel participants shall be established by the audience measurement provider to represent the defined measurement universe and support the intended reporting purposes.

The sampling methodology shall be documented and consistently applied. The methodology shall be designed so that:

a) a representative sample of the measurement universe is produced;

b) sampling bias and coverage error are minimised;

c) the intended reporting levels, platform coverage, and audience measurement objectives are supported; and

d) recruitment, replacement, weighting, and panel maintenance procedures are defined.

Probability-based sampling methods should be used where practicable. Other sampling methods may be used where the audience measurement provider can demonstrate equivalent representativeness, transparency and reliability for the intended measurement application.

6.4 Sample size

Sample size shall be determined by the audience measurement provider with reference to the measurement objectives, measurement universe, reporting granularity, and required statistical precision.

The sample size shall be documented and justified based on statistical, operational, and reporting requirements, including:

a) the size, composition, and distribution of the measurement universe;

b) the required confidence level and acceptable margin of error;

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c) expected panel attrition, turnover, and replacement requirements;

d) the intended level of reporting, including national, regional, state, platform, demographic or target audience reporting;

e) the applicable media platform, services, devices, and content types included in the measurement scope; and

f) the minimum reporting threshold required to maintain data quality and reliability.

The minimum sample size and, where applicable, panel household requirements shall be determined and documented by the audience measurement provider based on recognised statistical principles and operational considerations. The following factors shall be considered.

a) the total population and household measurement universe;

b) the required confidence level, such as 90%, 95%, or 99%;

c) the acceptable margin of error, such as ±1%, ±2%, ±3%, or ±5%;

d) national, regional, and state-level reporting requirements;

e) design effects arising from complex sampling methodologies and weighting adjustments;

f) expected panel attrition, turnover, and replacement rates; and

g) the minimum panel reporting threshold required to maintain data quality.

6.5 Audience measurement technologies

Audience measurement technologies shall comprise the validated tools, techniques, devices, software, and data collection mechanisms used to collect audience measurement data across the applicable media platforms, services, devices and content types.

The selected audience measurement technologies shall be documented, validated for the intended measurement application and subject to appropriate data quality controls in accordance with Clause 8.

Audience measurement technologies may include, but are not limited to, the following.

a) Active measurement

b) Passive measurement

c) Census measurement

d) Hybrid measurement, data fusion, or other approved measurement approaches, where applicable.

6.5.1 Active measurement

Active measurement requires direct participation by the panel participant to record, confirm, or report media consumption. The procedures for active measurement shall be documented and shall include controls to minimise recall error, response bias, and incomplete reporting.

Examples of active measurement technologies include:

a) paper diary;

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b) electronic diary;

c) Computer-Assisted Telephone Interviewing (CATI);

d) Computer-Assisted Personal Interviewing (CAPI); and

e) other respondent-declared measurement methods approved for the intended measurement application.

6.5.2 Passive measurement

Passive measurement automatically records media consumption with minimal or no interaction from the panel participant. Passive measurement technologies shall be configured to capture the required measurement signals accurately and shall include procedures for device installation, calibration, monitoring, fault handling and data validation.

Examples of passive measurement technologies include:

a) people meter;

b) portable meter;

c) mobile meter;

d) router meter;

e) audio matching;

f) watermarking; and

g) other automated measurement devices or signal detection technologies validated for the intended measurement application.

6.5.3 Census measurement

Census measurement collects audience measurement data directly from digital systems, applications, services or platforms. Census measurement data shall be assessed for completeness, validity, duplication, bot, or invalid traffic, device identification, user identification limitations and other data quality considerations relevant to the intended measurement application.

Examples of census measurement technologies include:

a) streaming logs;

b) Software Development Kit (SDK);

c) Tags; and

d) server logs.

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6.5.4 Hybrid measurement

Hybrid measurement combines data from two or more sources, such as panel, census, or first-party data.

Where hybrid measurement is used, the sources, integration method, matching rules, weighting, calibration, deduplication, validation controls, and limitations shall be documented by the audience measurement provider. The method shall be reviewed periodically in accordance with 7.3 to 7.7.
The following may be included among large-scale data sources used in hybrid measurement:

The following may be included among large-scale data sources used in hybrid measurement:

a) RPD;

b) streamer first party data; and

c) Automatic Content Recognition (ACR)

6.6 Standard audience measurement metrics

The metrics used for each applicable platform and cross-platform reporting purpose shall be defined by the audience measurement provider. For each applicable metric, a clear definition, calculation method, measurement unit, reporting period, platform applicability, and any limitations or assumptions relevant to interpretation shall be documented.

Where a metric is used for more than one platform or reporting purpose, it shall be applied consistently, and any platform-specific differences shall be clearly disclosed.

A metric dictionary shall be maintained by the audience measurement provider for all metrics used in reporting. The metric name, definition, applicable media platform, calculation method, reporting period, measurement unit, minimum reporting threshold, and any applicable exclusions or limitations shall be included in the dictionary.

The following matrix should be used to indicate the recommended applicability of each audience measurement metric by platform. Any deviation from the matrix shall be documented, justified and disclosed where it affects comparability or interpretation of reported results.

The platform applicability matrix should be reviewed periodically to reflect changes in media services, devices, content formats, measurement technologies and market reporting requirements.

The recommended applicability of audience measurement metrics by platform is identified in Table 4. Any departure that affects comparability or interpretation shall be documented and disclosed by the audience measurement provider. The platform applicability matrix shall be reviewed periodically to reflect changes in services, devices, content formats, technology, and reporting requirements.

6.6.1 Cross-media advertising measurement scope

The requirements in Clauses 6.6.6.1 to 6.6.6.10 are applied where metrics are used for cross-media platform advertising measurement across video, display, and audio. Television, over-the-top (OTT) delivery, and digital video are included in video, digital display is included in display, and radio and digital audio are included in audio.

6.6.1.1 Qualified exposure

Where cross-media advertising reach, frequency, or GRPs are reported, qualified exposure shall be used as the qualifying measurement unit.

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6.6.1.2 Invalid traffic filtration

The audience measurement provider shall filter invalid traffic from cross-media audience and advertising metrics, including general and sophisticated invalid traffic where applicable. The filtration method, sources, thresholds and limitations shall be documented.

6.6.1.3 Comparative presentation of metrics

Where platform-specific metrics are presented alongside cross-media metrics, the audience measurement provider shall identify the reporting basis for each. Differences in methodology, reporting base or calculation, including reach qualification, shall be disclosed.

6.6.1.4 Viewable duration and completion metrics

For cross-media video advertising, total and average viewable duration should be reported at the most granular practicable level. Viewable completion should be reported where full duration viewability can be determined. Duration-weighted qualified exposure may be reported as a supplementary metric where its weighting method and limitations are disclosed.

6.6.1.5 Duration measurement limitations

Duration shall not be inferred from less granular data unless the method has been validated by the audience measurement provider against granular duration measurements. Where duration is not measured directly, the limitation shall be disclosed by the provider. The inferred duration shall not be used for duration-weighted reporting without a documented technical justification.

6.6.1.6 Advertisement-level measurement

Cross-media advertising measurement should use the most granular practicable advertisement occurrence level. For deduplicated cross-media video measurement, advertisement audiences shall not be inferred from programme audiences unless the advertising model is static and the inference method is documented and justified.

6.6.1.7 Audio consideration for video advertising

For audio considerations in video advertising, the audience measurement provider:

a) should report audio presence separately where it can be measured;

b) shall disclose the limitation where audible exposure cannot be measured; and

c) may report audible duration as a supplementary metric where validated.

6.6.1.8 Person-level measurement and deduplication

Person-level measurement and deduplication in cross-media audience measurement shall be addressed as follows.

a) person-level measurement shall be supported where practicable;

b) consistency between digital and non-digital components shall be ensured;

c) audience assignment should be performed at the unique user level where available, or at the unique device level where user-level identification is not available; and

d) the methodology used to identify, match, and deduplicate users or devices shall be documented, validated, and disclosed.

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6.6.1.9 Reference population and attribution

In establishing reference populations and conducting identification and attribution for cross-media audience measurement, the audience measurement provider:

a) should use the total national population as the reference population for national cross-media audience measurement;

b) may use local market or regional populations where the reporting scope is clearly defined;

c) shall use underlying data that is, in reasonable proportion, directly attributable to persons in identification and attribution processes; and

d) shall not report user-level or person-level audience estimates solely through modelling without direct or validated supporting data.

6.6.1.10 Documentation, disclosure, and auditability

The audience measurement provider shall document and disclose the methodology, data sources, validation controls, filtration approach, privacy considerations, reporting limitations, and auditability arrangements supporting cross-media measurement. These requirements should be read together with the relevant requirements elsewhere in this Technical Code.

6.6.1.11 Standard platform metric categories

The audience measurement system shall define the applicable measurement metrics for each media platform and cross-media use case. The metric categories should include television, radio, and digital media, and shall distinguish between content audience measurement, advertising exposure measurement and cross-platform audience deduplication.

6.6.2 Metric definitions and calculation requirements

For each standard audience measurement metric, the audience measurement provider shall document the definition, formula, measurement universe, reporting period, inclusion or exclusion rules, deduplication treatment, data quality controls, and any limitations affecting interpretation.

Table 4 identifies recommended metrics for television, radio and digital media.

Table 4. Recommended audience measurement metrics by platform

No	Audience metrics	TV	Radio	Digital media
1	Reach	✓	✓	✓
2	Ratings	✓	✓	X
3	Qualified Exposure (GRP/ listens/ views)	✓	✓	✓
4	Audience Share	✓	✓	X
5	Frequency	✓	✓	✓
6	Average Time Spent (ATS)	✓	✓	✓
7	Average Viewing Time (AVT) or	✓	✓	✓
8	Average Listening Time (ALT)	✓	✓	✓
9	Cost Per Mile (CPM)	✓	✓	✓
10	Cost Per Ratings Points (CPRP)	✓	✓	✓
11	Co-viewing/ co-listening	✓	✓	✓

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The following provisions apply to the use of metrics.

a) Where a metric is available for more than one platform, its applicability to cross-platform reporting shall be assessed and documented; and
b) additional metrics may be used where their definitions, calculations, and applicability are documented in the metric dictionary.

The calculation examples below are illustrative. Panel weighting is not accounted for in these examples.

6.6.2.1 Reach

Reach is the number or percentage of unique individuals who have at least one qualified exposure to a specified programme, channel, station, advertisement, or other media content during a specified reporting period.

The following requirements apply to reach calculations.

a) the measurement universe shall be clearly defined before reach is calculated;

b) each individual shall be counted only once during the reporting period; and

c) duplicate audience exposures shall be removed where cross-platform audience measurement is performed, so that individuals with multiple exposures are counted only once.

When expressed as a percentage, reach shall be calculated using the following formula:

$$\text{Reach } (\%) = \left(\frac{\text{U}}{\text{M}}\right) \times 100$$

where,

U = number of unique individuals reached during the reporting period.

M = total measurement universe.

For example,

Measurement universe = 1,000,000 individuals

Unique audience = 650,000 individuals

$$\text{Reach } (\%) = \left(\frac{\text{650,000 individuals}}{\text{1,000,000 individuals}}\right) \times 100 = 65\ \%$$

For cross-media reporting, reach represents the number or percentage of unique individuals with at least one qualified exposure to advertising or content during the defined reporting period. Audience records shall be deduplicated so that each individual is counted only once during that period.

When expressed as a percentage, reach for cross-media reporting is calculated as follows:

$$\text{Reach } (\%) = \left(\frac{\sum \text{Unique Audience exposed at least once}}{\text{Measured population or universe or target}}\right) \times 100$$

The numerator represents the total unique audience with at least one qualified exposure during the reporting period, after deduplication across media. The denominator represents the total number of individuals in the corresponding measured population, universe, or target population.

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Reach can also be expressed as a whole number representing the total number of unique individuals with at least one qualified exposure to advertising during the reporting period.

6.6.2.2 Ratings

Ratings measure the proportion of the measurement universe exposed to a programme, channel, station, advertisement, or other media content during a specified period.

Cross-platform ratings may be calculated for repurposed TV content, other episodic content, or discrete reporting periods. A defined measurement period is essential to the calculation of ratings.

The total campaign GRPs are obtained by summing the rating points across the relevant pages, properties, and applications.

When expressed as a percentage, the following calculation is recommended.

$$\text{Ratings (\%)} = \left(\frac{\sum \text{Time spent}_{\text{i}}}{\text{Content length x Measurement Universe}}\right) \times 100$$

where,

i = each individual exposed at least once during the measurement period

$\text{Time spent}_{\text{i}}$ = time spent by individual i consuming the measured content

Content length = duration of the measured content, expressed in the same unit as time spent

Measurement Universe = total number of individuals in the defined measurement universe

For example,

Content length = 30 minutes

Audience who was exposed at least once = 100,000 individuals

Total Time spent = 300,000 minutes

Measurement universe = 1,000,000 individuals

$$\text{Ratings (\%)} = \left(\frac{}{30 \text{ minutes } \times 1{,}000{,}000 \text{ individuals}}\right) \times 100 \ = 1\%$$

Ratings can also be expressed as the average audience in thousands, using the following formula:

$$\text{Ratings ('000)} = \left(\frac{\Sigma_i \text{ Time spent}_{\text{i}}}{\text{Content length x } 1{,}000}\right)$$

6.6.2.3 Qualified exposure and GRPs

Gross rating points (GRPs) are the sum of rating points for the advertisement occurrences in a campaign. Where reach is expressed as a percentage of the measurement universe, campaign GRPs equal percentage reach multiplied by average frequency.

Total GRP is calculated as follows.

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$$\text{GRP} = \Sigma \text{ Gross rating points}$$

or

$$\text{GRP} = \text{Reach} \times \text{Frequency}$$

or

$$\text{GRP (\%)} = \frac{\Sigma \text{ Audience exposed at least once}}{\text{Measured population or universe or target}} \times 100$$

6.6.2.4 Audience share

Audience share measures the proportion of the audience using a medium that is viewing or listening to a specified programme, channel, station, or media service during a reporting period.

Share shall be calculated using the following formula:

$$\text{Audience share (\%)} = \frac{\text{Ratings ('000)}}{\text{T}} \times 100$$

where,

T = total audience using the medium during the same period

For example,

Ratings ('000) = 120,000 individuals
Total Audience = 400,000 individuals

$$\text{Audience share (\%)} = \frac{120{,}000 \text{ individuals}}{400{,}000 \text{ individuals}} \times 100 = 30\ \%$$

6.6.2.5 Frequency

Frequency is the average number of qualified exposures per unique individual reached during the reporting period.

The recommended calculation is as follows.

$$\text{Frequency} = \frac{\text{Total exposure}}{\text{Reach}}$$

For example,

Total exposure = 3,500,000

Reach = 700,000

Frequency = $\frac{3{,}500{,}000}{700{,}000}$ = 5

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6.6.2.6 Average Time Spent (ATS)

ATS is the mean time spent consuming content by the audience reached during the reporting period.

The recommended calculation is as follows.

$$\text{ATS} = \frac{\sum \text{time spent}_{\text{i}}}{\text{Reach}}$$

where,

i = audience who were exposed at least once

For example,

Total Time Spent = 5,000,000 minutes

Reach = 500,000 audience

ATS= $\frac{\sum 5{,}000{,}000}{500{,}000}$ = 10 minutes per audience

6.6.2.7 Average Viewing Time (AVT) and Average Listening Time (ALT)

Average viewing time (AVT) and average listening time (ALT) are the mean time spent consuming content across the defined measurement universe during the reporting period.

The recommended calculation is as follows.

$$\text{AVT and ALT} = \frac{\sum \text{time spent}_{\text{i}}}{\text{Measurement Universe}}$$

where,

i = audience who were exposed at least once

For example,

Total Time Spent = 50,000,000 minutes

Measurement Universe = 50,000,000

AVT and ALT= $\frac{\sum 50{,}000{,}000}{50{,}000{,}000}$ = 1 minute

6.6.2.8 Cost per Mile (CPM)

Cost per Mille (CPM) represents the campaign cost per 1,000 measured exposures.

The recommended calculation is as follows.

$$\text{CPM} = \left(\frac{\text{Total Campaign Investment}}{\text{Ratings}} \right) \text{x } 1{,}000$$

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For example,

Total Campaign Investment = 100,000

Ratings = 2,000,000

CPM= $\left(\frac{100,000}{2,000,000} \right)$ x 1,000 = 50

CPM is dependent on the availability of the rate card provided by broadcasters.

6.6.2.9 Cost per Ratings Points (CPRP)

Cost per Rating Point (CPRP) represents the campaign cost per rating point.

The recommended calculation is as follows.

$$\text{CPRP} = \left(\frac{\text{Total campaign investment}}{\text{Ratings points}} \right)$$

For example,

Total Campaign Investment = 100,000

Ratings Points = 2,000

$$\text{CPRP} = \left(\frac{100,000}{2,000} \right) = 50$$

CPRP is dependent on the availability of the rate card provided by broadcasters.

7. Audience measurement data processing

Audience measurement data processing comprises the activities that transform collected data into audience measurement results that are representative of the defined measurement universe, internally consistent, and comparable across media platforms.

Processing activities shall include, but are not limited to:

a) data preparation, editing, and imputation;

b) calibration and weighting;

c) integration of audience measurement data from two or more measurement sources;

d) identity resolution and audience deduplication;

e) qualification of audience exposure;

f) attribution of audience exposure to the unit of measurement;

g) consolidation of time-shifted and on-demand audiences; and

h) production of audience estimates for reporting.

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The audience measurement provider shall determine the processing methods appropriate to its measurement design, provided that the requirements of this clause are met.

7.1 Qualification of audience exposure

Qualification rules determine whether recorded media activity is included as audience exposure.

The audience measurement provider shall define and disclose the qualification rules applied to each media platform and metric, addressing, where applicable:

a) the minimum duration of exposure;

b) any requirement relating to the presentation of the content, for example whether it was rendered, audible, or in view, and the basis on which this is established;

c) the treatment of automatically initiated, background or continuous playback;

d) the treatment of activity where the presence of an individual cannot be established;

e) the treatment of invalid, fraudulent, or non-human activity; and

f) the treatment of exposure to advertising, where this differs from exposure to content.

Qualification rules shall:

a) be applied consistently within a reporting period;

b) be set so as to support comparability between platforms for any metric reported on a cross-platform basis;

c) be capable of being met by the measurement methods in use on each platform to which they apply; and

d) be documented together with the rationale for the values adopted.

Where a metric is reported on a cross-platform basis and the qualification rules differ between platforms, the audience measurement provider shall state the difference and its expected effect on the metric.

7.2 Processing methodology and documentation

The audience measurement provider shall establish and maintain a documented processing methodology.

The documented processing methodology shall describe:

a) each processing stage applied and the sequence in which it is applied;

b) the input data sources for each stage;

c) the assumptions, parameters, and thresholds applied at each stage;

d) the treatment of missing, invalid, or incomplete data;

e) the known limitations of each method and their expected effect on results; and

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f) the version of the methodology in effect for each reporting period.

The processing methodology shall be:

a) applied consistently within a reporting period;

b) capable of independent verification; and

c) reproducible, such that the same input data processed under the same methodology version produce the same audience measurement results; and

The audience measurement provider shall publish a summary of the processing methodology that is sufficient to enable users of audience measurement data to understand how the reported results are produced.

The published summary shall include, where applicable:

a) the principal data sources;

b) the processing stages;

c) the key assumptions; and

d) the validation procedures.

The disclosure shall be sufficiently detailed to support informed interpretation of the results while safeguarding the audience measurement provider's confidential information, proprietary methods, and intellectual property rights.

The processing methodology shall be made available in full to the Joint Industry Committee (JIC), regulators, and any independent auditor assigned the role of verification, subject to appropriate confidentiality and information-security arrangements.

Records sufficient to allow published results to be reconstructed shall be retained in accordance with 11.3.

7.3 Data preparation

Data preparation converts audience measurement data from each measurement source into a form suitable for subsequent processing.

Data preparation shall address, where applicable:

a) alignment of records to a common reference time;

b) identification of media services, content and advertising by reference to a controlled metadata source;

c) standardisation of data structures, classifications, and identifiers across measurement sources;

d) treatment of missing, incomplete or invalid records;

e) identification and treatment of outlying or implausible records; and

f) reconciliation of data received against the volume and coverage expected from each source.

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Where records are edited, imputed, or substituted, the audience measurement provider shall:

a) apply established rules governing the conditions under which editing, imputation, or substitution is performed;

b) document the rule applied and the conditions under which it is triggered;

c) retain the unedited record or an auditable record of the change; and

d) monitor and report the incidence of editing and imputation in accordance with 8.8.

Editing, imputation, and substitution shall not be used to compensate for systematic deficiencies in data collection.

7.4 Calibration and weighting

Calibration and weighting are applied to adjust audience measurement data to improve the representativeness of audience measurement results in relation to the measurement universe.

Calibration and weighting shall:

a) improve the representativeness of audience measurement results in relation to the measurement universe;

b) reduce, so far as is practicable, bias arising from sample selection, non-response, and differential data capture;

c) be applied consistently within a reporting period; and

d) be documented in accordance with 7.2.

Calibration and weighting may include, where applicable:

a) measurement universe calibration,

b) measurement source calibration; and

c) cross-platform calibration.

The audience measurement provider shall specify the calibration and weighting procedures applied, the sequence in which they are applied, and the effect of each on the resulting estimates.

The audience measurement provider shall monitor, at agreed intervals, the dispersion of weights or an equivalent indicator of weighting efficiency, and the representativeness of the sample in relation to the measurement universe. The results of such monitoring shall be reported in accordance with 8.8.

7.4.1 Population calibration

Population calibration is applied to align audience measurement data with the measurement universe by reference to independent population data.

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Population calibration shall:

a) use reference data that are independent of the audience measurement provider and users of audience measurement data, where available;

b) use reference data with documented provenance and known currency;

c) apply a consistent set of calibration variables within a reporting period; and

d) be updated at a defined frequency and upon any material revision tothe reference data.

Reference data may include:

a) official national population and household statistics;

b) other official statistical sources;

c) findings of an establishment survey commissioned for the purpose; or

d) other sources accepted by the governance body, such as a JIC and regulators.

Calibration variables should be selected based on their:

a) association with media consumption behaviour; and

b) availability in the reference data**.**

Calibration variables may include, where applicable:

a) age;

b) gender;

c) ethnicity;

d) state, region, or geographical classification;

e) household size and composition;

f) household income or socio-economic classification;

g) language;

h) access to reception technologies, devices, or media platforms; and

i) connectivity status.

The audience measurement provider shall specify:

a) the calibration variables applied;

b) the basis on which they were selected; and

c) effect of the selection on audience measurement results.

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Where findings from an establishment survey are used as reference data, the audience measurement provider shall specify:

a) the design and sampling methodology;

b) the target population and achieved sample size;

c) the survey frequency and reference period;

d) the fieldwork and data-collection methods; and

e) any known limitations that may affect the calibration process or audience measurement results.

7.4.2 Measurement source validation and calibration

Measurement source validation and calibration are applied to assess and, where necessary, adjust the performance characteristics of each measurement source. A measurement source may be metering equipment, software, an application, a tag or software development kit, a data feed supplied by a platform or third party, or any other source of agreed and validated audience measurement data.

Measurement source validation shall establish, for each source and as applicable to the source:

a) the accuracy of media identification;

b) the accuracy of the time reference and synchronisation;

c) the accuracy of attribution to the unit of measurement;

d) the completeness and integrity of data transfer; and

e) the conditions under which the source is known to under-record or over-record.

Validation shall be carried out:

a) before the source is first used in the production of audience measurement results;

b) following any material change to the source, including changes to the software version, platform interface, or data specification; and

c) at intervals specified by the audience measurement provider and agreed with the JIC.

The audience measurement provider shall specify the validation method, the tolerances applied, and the action taken where a source is found to fall outside the specified tolerance.

Operational management of measurement sources is specified in 8.3.

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7.4.3 Cross-platform calibration

Cross-platform calibration is applied to improve the consistency and comparability of audience measurement data collected across different media platforms and using different measurement methods.

Cross-platform calibration shall:

a) identify and, so far as is practicable, reduce systematic differences between platforms and measurement sources that do not reflect actual audience behaviour;

b) support the production of comparable audience measurement metrics across platforms;

c) apply a consistent approach across all measurement sources contributing to a given metric; and

d) be documented, including a statement of any differences that remain.

7.5 Integration of measurement sources

Integration is applied to combine audience measurement data from two or more measurement sources into a dataset from which audience measurement results are produced.

Integration methods shall include, but are not limited to:

a) statistical matching or data fusion;

b) calibration of census data to panel data, or of panel data to census data;

c) direct linkage using a common identifier;

d) single-source measurement, in which the same units are measured across platforms;

e) modelling; and

f) any combination of the above.

The audience measurement provider shall specify the method or combination of methods applied which method or combination of methods is applied to each metric and platform.

Integration shall:

a) preserve the integrity of the contributing source data, which shall remain available in unintegrated form for verification;

b) not introduce systematic bias into audience measurement results;

c) produce results that are stable between reporting periods to the extent that the underlying behaviour is stable; and

d) be documented in accordance with 7.2.

The audience measurement provider shall specify how integrated results are validated, including any independent or hold-out data used for validation.

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The audience measurement provider shall develop a scalable solution that enables the integration of additional measurement sources, where such integration is agreed with the JIC and regulators.

7.5.1 Data fusion

Data fusion combines information from two or more datasets to produce integrated audience measurement data or results.

Where data fusion is applied, the audience measurement provider shall:

a) specify the donor and recipient datasets;

b) disclose the data source and its date of origin;

c) specify the linking variables and report their explanatory power;

d) document the fusion procedure and any constraints applied; and

e) evaluate and report the quality of the fusion, including the preservation of marginal and joint distributions.

Fused estimates should not be reported at a level of granularity beyond that supported by the fusion. The audience measurement provider shall state the minimum reporting level for fused estimates.

7.5.2 Integration of panel and census data

Integration of panel and census data combines the complementary characteristics of both data sources in the production of audience measurement results.

Where panel data and census data are combined, the audience measurement provider shall specify:

a) the role of each source in the resulting metric;

b) the treatment of census records relating to individuals, devices or activity outside the measurement universe;

c) the treatment of multiple devices, shared devices and multiple user profiles;

d) the identification and exclusion of non-human traffic and invalid activity, with reference to recognised industry standards and best practices for traffic validation and fraud detection;

e) the treatment of activity for which no census record is available, including where measurement is blocked, opted out of, or not implemented; and

f) the effect on the resulting metric where a census source is discontinued, changed or withheld.

The audience measurement provider shall assess the validity of each data source supplied as first-party data or by a third party.

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7.5.3 Modelled and derived data

Modelled and derived data are used to produce audience measurement results where results are not obtained solely from direct observation.

Where audience measurement results are wholly or partly modelled, the audience measurement provider shall ensure that:

a) the purpose, inputs, outputs and assumptions of the model are documented;

b) the extent to which a reported estimate is modelled rather than observed is determinable;

c) the model is validated against observed data at a defined frequency;

d) model performance is monitored and reported in accordance with 8.8; and

e) material changes to the model are managed in accordance with 7.10.

7.6 Audience deduplication

Audience deduplication is applied to produce estimates of unique audiences where the same individual may be recorded by more than one measurement source, media platform, device, or occasion.

Audience deduplication shall:

a) identify records that relate to the same individual;

b) produce unique audience estimates in which individuals are not counted more than once;

c) avoid the removal of records relating to distinct individuals;

d) be applied consistently to all sources contributing to a deduplicated metric; and

e) be documented in accordance with 7.1.

Deduplication methods may include, but are not limited to:

a) observation of the same individuals across platforms in a single-source panel;

b) deterministic matching using a common identifier;

c) probabilistic matching based on defined attributes and matching criteria;

d) identity or device graph resolution;

e) modelled deduplication using statistical or computational techniques; or

f) a combination of these methods.

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The audience measurement provider shall specify:

a) the method or methods applied;

b) the level at which deduplication is performed, for example, at the individual, household, device, or profile level;

c) the accuracy of the deduplication, where possible, and the method by which that accuracy is assessed; and

d) the reporting levels and time periods for which deduplicated metrics are supported.

Where deduplication relies on identifiers, the audience measurement provider shall specify the treatment of records for which no identifier is available, and shall assess and report the effect of identifier loss or unavailability on the resulting estimates.

Deduplication shall be performed in a manner consistent with the data privacy requirements of Clause 11.

7.7 Attribution of audience exposure

Attribution assigns recorded media activity to the unit of measurement defined in Definition 4.19. The audience measurement provider shall specify the method by which activity is attributed to individuals, addressing, where applicable:

a) co-viewing and co-listening, including on television sets, connected television devices and other shared devices;

b) audiences outside the home;

c) visitors and guests;

d) shared or multi-user accounts and profiles; and

e) activity that cannot be attributed to an identified individual.

7.8 Segregation of content, advertising vehicles, and media

Measurement of digital advertising delivery and content audiences is generally performed separately, whereas legacy broadcast media may infer the same audience for both content and advertising.

Different types of content and advertising delivery models shall:

a) be separately tracked;

b) be considered separately for reporting purposes, either through segregation or clear delineation; and

c) be clearly described to users of audience measurement data.

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Measurement should be performed at a level of granularity that enables:

a) measurement of the audience; and

b) measurement of advertising contained within content,

The level of granularity should take into consideration the advertising model employed, and the characteristics of the technology used to deliver the content.

Activity measurement shall be sufficiently granular to:

a) distinguish between advertising types and media for audience-based reporting; and

b) enable audience assignment methods to provide a corresponding level of granularity, taking into consideration any sample size and data adjustment limitations.

Measurement of advertising shall:

a) be segregated and distinct from measurement of content, including advertising delivered as pre-roll, mid-roll, post-roll, or within standard commercial pods; and

b) have its basis for measurement disclosed.

The audience measurement provider should use the same measurement assets and methodology to measure advertising and content, where possible, while maintaining the ability to:

a) distinguish between advertising and content;

b) separately track advertising and content; and

c) separately credit advertising and content.

7.9 Consolidation of time-shifted and on-demand audiences

Where audiences for time-shifted, on-demand, or previously published content are reported, the audience measurement provider shall specify as follows.

a) The consolidation windows applied and the metrics to which each window applies, for example, +7 days or +28 days.

b) The point at which results for a reporting period are treated as final.

c) The treatment of audiences accruing after the final consolidation window.

d) The basis on which content is attributed to an original transmission or publication event, where applicable.

Consolidation windows should be determined in consultation with the JIC and regulators, taking account of reporting and trading requirements.

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7.10 Change management for processing methodology

The audience measurement provider shall operate a documented change management procedure for the processing methodology.

Before implementing a material change, the audience measurement provider shall:

a) assess and document the expected effect of the change on published audience measurement results;

b) submit the assessment to the JIC and regulators;

c) notify users of audience measurement data in advance of implementation;

d) where practicable, produce results under both the existing and the revised methodology for a defined period; and

e) state the date from which the revised methodology takes effect.

A change shall be treated as material where it can reasonably be expected to affect audience measurement results to an extent that would influence their use as a trading currency.
The audience measurement provider shall record changes to processing methodology, including the affected version and implementation date, and retain those records in accordance with 11.3.

8. Data quality management

8.1 Audience measurement lifecycle

Data quality shall be managed throughout the audience measurement lifecycle, including data capture, ingestion, processing, reporting, and disposal, to maintain the accuracy, completeness, consistency, timeliness, and integrity of audience measurement data.

The audience measurement provider shall establish, document, implement, and maintain a data quality management process covering, as follows:

a) data validation;

b) management of measurement sources;

c) panel quality management;

d) quality performance indicators;

e) statistical quality and precision;

f) compliance monitoring and non-conformity management;

g) quality assurance;

h) testing of methodological and operational change; and

i) quality reporting and transparency.

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The data quality management process should be aligned with a recognised quality management standard. Certification to such a standard may be submitted as evidence of conformity as part of the governance requirements in accordance with 11.7, but does not substitute for the requirements of this clause.

Where a threshold is required by this clause, the audience measurement provider shall:

a) set the threshold;

b) justify the threshold;

c) publish the threshold;

d) apply the threshold consistently; and

e) review the threshold in accordance with 8.5.

8.2 Data validation

Data validation verifies that audience measurement data are complete, valid, and internally consistent before they are used in processing or reporting.

The audience measurement provider shall validate audience measurement data received from each measurement source to:

a) verify that the expected data have been received in full and within the expected period;

b) identify incomplete, invalid, duplicated, or internally inconsistent records;

c) identify anomalous values and unexplained changes in data patterns;

d) verify the integrity of data during transfer and storage; and

e) establish that the data are suitable for the intended use.

8.3 Management of measurement sources

Management of measurement sources covers all sources used to collect audience measurement data, including metering equipment, software, applications, tags, software development kits, and data feeds supplied by first and third parties.

The audience measurement provider shall manage measurement sources to maintain:

a) the accuracy of the data collected;

b) the continuity of data collection; and

c) the integrity of data during transfer.

Management of measurement sources shall address the following activities, to the extent applicable to the source type in use:

a) registration;

b) installation;

c) configuration;

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d) routine inspection;

e) preventive maintenance;

f) corrective maintenance;

g) replacement; and

h) decommissioning.

The timeline for the applicable activities shall be agreed with the JIC.

8.4 Panel quality management

Where a panel is used, the audience measurement provider shall manage the panel so that it continues to represent the measurement universe throughout the measurement period.

Panel quality management shall address:

a) recruitment and the conversion of the selected sample into the participating sample;

b) participant compliance with measurement procedures;

c) participant tenure and controlled turnover;

d) maintenance of the panel structure against the measurement universe within agreed thresholds, in accordance with 6.2; and

e) changes in participant circumstances affecting eligibility or classification.

The audience measurement provider shall ensure that a panel quality control process is implemented. The process may include coincidental surveys and subsequent remediation, where necessary.

8.5 Quality performance indicators

Quality performance indicators provide an objective and continuous measure of the performance of the audience measurement system.

The audience measurement provider shall establish a set of quality performance indicators applicable to its measurement design, including, but not limited to:

a) active participation rate;

b) device uptime;

c) data transmission success rate; and

d) panel representation.

For each indicator the audience measurement provider shall specify:

a) the definition and method of calculation;

b) the population or basis on which it is calculated;

c) the reporting level or level of aggregation;

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d) the frequency of measurement and reporting;

e) the threshold or target value and the basis on which it was determined; and

f) the action taken where the threshold is not met.

Indicators and their thresholds shall be:

a) submitted to and agreed with the JIC,

b) published to users of audience measurement data,

c) applied consistently; and

d) capable of independent verification.

8.5.1 Determination and review of thresholds

Thresholds shall be determined based on the following considerations:

a) the effect of the indicator on the accuracy and representativeness of audience measurement results;

b) the measurement technology and design in use;

c) the characteristics of the measurement universe; and

d) established practice in comparable audience measurement systems.

The following requirements shall apply to the setting and review of thresholds:

a) be set at levels that are demonstrably achievable under operational conditions;

b) have a material effect on the quality of results; and

c) be reviewed at an agreed frequency and upon any material change to the measurement design.

A threshold that cannot be achieved under operational conditions or that has no bearing on the quality of results shall not be adopted.

Where a threshold revision is proposed, the audience measurement provider shall state:

a) the reason for the revision; and

b) its expected effect on audience measurement results.

Performance against each indicator shall be reported in accordance with 8.10, whether or not the threshold has been met.

8.6 Statistical quality and precision

The audience measurement provider shall assess and report the statistical quality and precision of audience measurement results.

The audience measurement provider shall specify:

a) the method by which sampling error, or an equivalent measure of precision, is estimated;

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b) the effect of the sample design and of weighting on precision, including effective sample size;

c) the minimum sample base, as determined by demographic sample statistics, below which audience measurement results are reported with qualification; and

d) the guidance provided to users on the interpretation of results based on small samples.

The audience measurement provider shall make available to users the information necessary to assess the reliability of the results they use.

Known sources of non-sampling error should be identified, monitored, and disclosed, including coverage error, non-response bias, measurement error, and processing error.

8.7 Quality assurance

Quality assurance provides confidence that audience measurement activities are performed consistently and in accordance with the documented methodology.

Quality assurance shall include, where applicable:

a) documentation of operating procedures;

b) document and version control;

c) internal quality review and internal audit;

d) competency management and training of personnel;

e) change control, in accordance with 7.10;

f) control of outsourced activities and third-party suppliers;

g) business continuity, data backup, and recovery arrangements; and

h) continual improvement.

The audience measurement provider shall specify the scope and frequency of each quality assurance activity.

Where any part of the audience measurement process is performed by a third party, the audience measurement provider shall remain responsible for conformity with this Technical Code and shall specify how the performance of that third-party is monitored.

Quality assurance arrangements shall be reviewed at planned intervals, and their effectiveness assessed by the JIC.

8.7.1 Panellist screening

The audience measurement provider shall define and apply eligibility criteria to exclude persons employed in the media or market research industries and members of their households from the panel.

8.7.2 Pilot studies

Pilot studies shall not be conducted in conjunction with regular syndicated audience measurement activities unless a prior independent assessment demonstrates that the potential effect of the pilot study on reported audience measurement results is minimal.

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Where pilot studies are conducted, the methodology and potential effect on the reported results shall be disclosed.

8.8 Quality reporting and transparency

The audience measurement provider shall report on the quality of audience measurement data at a frequency agreed with the JIC and regulators.

Quality reporting shall include:

a) performance against each quality performance indicator;

b) achieved sample and panel structure compared with the intended sample and panel structure;

c) incidence of validation failure, editing, imputation, and exclusion;

d) non-conformities, incidents, and corrective actions;

e) changes to the methodology implemented during the period or planned; and

f) any limitations affecting the intended use of the data.

A summary of quality performance shall be made available to all users of audience measurement data.

The audience measurement provider shall provide the JIC, regulators, and the independent auditor with access to the records, documentation, systems and personnel necessary to verify the quality information reported.

8.8.1 Fabricated or manipulated panel participant data

Where fabricated or deliberately manipulated panel participant information is identified, the Audience Measurement Provider shall exclude the affected data.

Where the affected data have already been included in published audience measurement results, the Audience Measurement Provider shall:

a) assess the effect on the published results; and

b) notify users where the effect is determined to be significant.

9. Disclosure on external influences on audience measurement results

The audience measurement provider shall disclose in the relevant report any known event or circumstance that may materially affect the reported results, including, where applicable, power outages, natural disasters, transmission failures, or other service disruptions.

10. Electronic delivery and third-party processor requirements

This clause applies where audience measurement data are delivered electronically or where a third-party processor processes, reports, provides access to, or enables the reporting of such data.

Audience measurement providers and third-party processors shall ensure that electronically delivered data and the resulting reports are consistent with the data and results supplied by the audience measurement provider and are protected against unauthorised access, disclosure, or alteration.

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Where required disclosures are provided through an electronic data delivery system, the audience measurement provider or third-party processor shall display them with the relevant data or report so that users can readily access them.

10.1 Electronic data delivery system controls

The electronic data delivery system shall incorporate controls to:

a) prevent unauthorised access to information that identifies, or may identify, panel participants;

b) prevent unauthorised alteration of raw or processed audience measurement data, including exposure or consumption records, and the results of weighting, calibration, and sample-balancing results;

c) prevent unauthorised changes to the software, configuration, or calculation logic of the electronic data delivery system;

d) ensure that report headings, labels, visualisations, and presentation formats do not misrepresent the reported results; and

e) display footnotes, flags, or other appropriate indicators where necessary to explain limitations affecting the interpretation of the data.

10.2 Data and reporting controls

The audience measurement provider or third-party processor shall ensure that reports generated by the electronic data delivery system clearly inform or alert users where:

a) an audience estimate does not meet the applicable minimum reporting threshold or has insufficient statistical reliability;

b) an analysis is subject to a minimum sample return requirement, in which case the applicable minimum shall be stated; or

c) previously published data have been revised or republished, in which case the relevant version or revision date shall be identified.

10.3 System and data management

The audience measurement provider or third-party processor shall establish controls to ensure that:

a) only the current authorised version of the electronic data delivery system is made available to users;

b) data known to contain errors that may affect the reported results are not published;

c) data containing errors identified after publication are withdrawn, corrected, or clearly flagged;

d) affected users are notified promptly of errors in the electronic data delivery system or published data; and

e) corrected data are distributed promptly, and superseded data are clearly identified.

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10.4 Exported data

Exported data shall retain sufficient information to identify the data source, reporting period, data version, and applicable reporting limitations.

Reports or data outputs produced outside the electronic data delivery system shall not be represented as standard or validated outputs of the audience measurement provider unless they have been reviewed and validated by the audience measurement provider.

Standard reports generated by the electronic data delivery system shall be clearly identifiable and shall include, where applicable, the relevant report name, data source, reporting period, generation date, and version.

10.5 User documentation

The audience measurement provider or third-party processor shall provide appropriate documentation to support the correct use of the electronic data delivery system. The documentation may be provided in the form of written instructions, user manuals, or online help facilities.

11. Reporting, information management, and data protection

Audience measurement reports shall present results consistently and accurately within the established reporting schedule and shall disclose information needed to interpret the reported results.

11.1 Reporting requirements

The audience measurement provider shall comply with the following reporting and information management requirements:

a) report audience measurement results using the metrics specified in 6.6;

b) identify the applicable reporting period;

c) identify the measurement universe and any applicable universe estimates;

d) identify the applicable media platform(s) and distribution environments;

e) identify the achieved sample size and effective sample size, where applicable;

f) state any assumptions, exclusions, or limitations affecting the reported results, including low sample size, weighting adjustments, data modelling, panel instability, or other factors relevant to the interpretation of reported audience estimates;

g) maintain records of published audience measurement reports, including the methodology version, publication date and time, revision status, and authorised recipient or access group;

h) identify, where applicable, audience estimates with a sample size below n = 50 individuals as having limited statistical reliability. Such data should remain accessible to users with a cautionary note on their interpretation; and

i) establish, monitor, and maintain operational quality assurance and service performance controls, including panel and device health monitoring, input data and processing file validation, audience consumption volume review, system availability, performance and user activity monitoring, and the management of service requests and incidents against defined service level requirements.

Table 5 specifies the minimum reporting information.

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Table 5. Minimum reporting information

Reporting item	Requirement
Reporting period	Start and end date, start and end time, reporting frequency, and data cut-off time.
Media platform	Platforms, distribution environment, device category, and channel or service, where applicable.
Measurement universe	Universe definition, target population, and applicable universe estimate.
Audience metric	In accordance with 6.6
Sample size	Achieved sample size and effective sample size, where applicable.
Methodology version	Unique methodology or processing version applied to the reported results.
Report publication date	Publication date and time, version identifier, approval status, and revision status.
Content characteristics	a) Information about content, such as title, source, actors, genres, and other attributes, as well as information about advertising, including, but not limited to, campaign title and copy line, where available and required. b) Audience measurement data specified in 6.6 may be associated with content metadata to provide context for the measurement results.

Validation shall be applied to all reported audience measurement data. Remedial action shall be taken within the agreed timeframe when requirements are not met.

Table 6. Reporting data validation checks

Validation item	Recommended threshold
Completeness	≥99% of mandatory fields populated
Validity	≥99% of records are valid
Consistency	≥99% of records are logically consistent
Duplicate records	≤0.5% of records are duplicates

11.2 Reporting period

Audience measurement results are reported according to an established reporting schedule.

The reporting period shall be appropriate for the intended audience measurement application and shall specify the start date and time, end date and time, applicable time zone, and data cut-off time.

Table 7 specifies the recommended reporting periods.

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Table 7. Recommended reporting periods

Report	Recommended reporting period
Television audience	Daypart, daily, weekly, monthly, or quarterly
Radio audience	
Digital media audience	
Cross-platform audience	

11.3 Publication of audience measurement results

Published audience measurement results accurately reflect the processed audience measurement data.

The audience measurement provider shall:

a) publish audience measurement results in accordance with the established reporting schedule;

b) identify revisions or corrections to previously published audience measurement results;

c) maintain version control for published reports;

d) maintain records of published audience measurement results; and

e) maintain a change log identifying the nature of the change, implementation date, expected impact, approval status, approving authority, and affected reporting periods.

11.4 Data privacy and data security

The audience measurement provider shall protect the privacy of panel participants and the confidentiality, integrity, and availability of audience measurement data in compliance with the Personal Data Protection Act 2010 (Act 709) and other applicable data protection requirements.

The audience measurement provider shall:

a) obtain explicit consent from panel participants for the disclosure of demographic details, consumption behaviour data, and any other relevant data collected as part of the audience measurement process;

b) maintain published privacy policies that detail notices provided to panel participants and active opt-out functionality, where applicable;

c) implement appropriate access controls for audience measurement data and records;

d) protect audience measurement data and records against unauthorised access, modification, or disclosure;

e) implement backup and recovery procedures for audience measurement data and records;

f) ensure that personally identifiable information is collected, processed, stored, and disclosed in accordance with applicable legal and regulatory requirements;

g) ensure that audience measurement data used for reporting do not identify individual panel participants; and

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h) securely dispose of audience measurement data and records when they are no longer required, in accordance with the organisation's documented retention policy.

11.5 Report revision and record retention

The audience measurement provider shall manage report revisions and audience measurement records to maintain the traceability, integrity, and availability of published audience measurement results.

The audience measurement provider shall:

a) maintain a record of all revisions to published audience measurement reports;

b) retain audience measurement records in accordance with the organisation's documented retention policy and applicable legal or regulatory requirements;

c) identify the reason, impact, approval, and effective date of each report revision

d) maintain version control for revised reports; and

e) ensure that retained audience measurement records remain complete, accurate, and accessible throughout the retention period.

Table 8 specifies the minimum record retention requirements.

Table 8. Record retention requirements

Record	Minimum retention period
Published audience measurement reports	Indefinitely
Source audience measurement data	5 years
Validation records	5 years
Calibration records	5 years
Quality assurance records	5 years

11.6 Record retention requirements

11.6.1 Active period

The audience measurement provider shall retain source audience measurement data, validation records, calibration records, and quality assurance records for at least 1 year.

11.6.2 Archive records

The audience measurement provider shall archive source audience measurement data, validation records, calibration records, and quality assurance records after one year of active retention.

During the archival period, source audience measurement data and supporting records shall be retained in a secure and accessible archive environment to support audit, regulatory, validation, methodological review, and historical analysis requirements.

Archived records shall be maintained in accordance with the guidelines stipulated in 11.4 and 11.5, and applicable legal, regulatory, and contractual requirements.

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11.7 Governance

Governance arrangements shall define the respective responsibilities of the JIC, regulators, and the audience measurement provider for methodology approval, technical specifications, measurement contracts, and access to data. The arrangements shall support impartiality, transparency, and oversight of the audience measurement system.

The JIC and regulators should review the governance framework, technical specifications, methodologies, reporting requirements, and supporting standards whenever deemed necessary.

Governance activities shall include, where applicable:

a) review of audience measurement processes;

b) review of quality performance indicators;

c) review of audience measurement reports;

d) stakeholder engagement;

e) management of changes affecting the audience measurement system;

f) periodic review of technical standards, methodologies, and reporting requirements; and

g) periodic review of media platforms and/or devices to be included under SAM.

For any audience measurement technology or methodology to be recognised as an official industry trading currency, the research methodology and data outputs shall be documented and submitted to the JIC for formal review, agreement, and approval.

Audience measurement data produced using a methodology approved by the JIC shall serve as the official industry trading currency to facilitate fair and equitable trading between buyers and sellers of media.

Any material methodological change shall be supported by appropriate testing, validation, impact assessment, and stakeholder consultation prior to implementation. The results of such assessments shall be documented and submitted to the JIC for review and approval, where applicable.

11.8 Independent audit

The audience measurement provider shall make its methods, controls, and records available to an independent auditor authorised under the governance arrangements. The JIC and regulators shall oversee the audit process.

Audience measurement approved by the JIC and regulators shall be independently audited at least once every 2 years to verify conformity with this Technical Code. An additional audit may be conducted where deemed necessary by the JIC and regulators.

The scope of the independent audit shall cover, where applicable, the following areas:

a) audience measurement processes;

b) sampling and/or data collection methodology;

c) calibration activities;

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d) quality performance indicators and quality control measures;

e) audience measurement reports; and

f) any other relevant metrics and processes.

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Annex B
(normative)

Abbreviations

ACR	Automatic Content Recognition
AMA	Average Minute Audience
AQH	Average Quarter Hour
ATS	Average Time Spent
AVOD BVOD	Advertising-Based Video on Demand, Broadcast Video on Demand
CAPI	Computer-Assisted Personal Interviewing
CAPI	Computer-Assisted Personal Interviewing
CATI	Computer-Assisted Telephone Interviewing
CPM	Cost Per Mile
CPRP	Cost Per Ratings Points
CTV	Connected Television
GRP	Gross Rating Point
JIC	Joint Industry Committee
OTT	Over-The-Top
RPD	Return-Path Data
SAM	Single Audience Measurement
SDK	Software Development Kit
SDK	Software Development Kit
SVOD	Subscription Video on Demand
TSL	Time Spent Listening
TSV	Time Spent Viewing
TV	Television

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