

Calculating Reach vs Frequency

When gearing up for a campaign, it's essential to be able to communicate to an advertiser how many people will hear their advertisement and how often throughout the radio campaign. Here are the definitions and formulas you need to give provide this information.

- Average Quarter-Hour Persons (AQH Persons)
 - Average number of people listening to a particular station for at least 5 minutes during a 15-minute period.²
- Average Quarter-Hour Ratings (AQH Ratings)
 - Average Quarter-Hour Persons estimate expressed as a percentage of the population being measured.²

How to Calculate:

$$\text{AQH Persons} \div \text{Population} = \text{AQH Rating \%}^2$$

- Gross Impressions (GIs)
 - Sum of Average Quarter-Hour Persons audience for all spots in an ad schedule; total number of times a commercial will be heard.¹

How to Calculate:

$$\text{AQH Persons} \times \# \text{ of commercials in ad schedule} = \text{GIs}^1$$

- Gross Rating Points (GRPs)
 - Sum of all rating points achieved for a particular spot schedule.¹

How to Calculate:

$$\text{AQH Rating} \times \# \text{ of commercials in ad schedule} = \text{GRPs}^1$$

- Reach
 - The number of persons reached or exposed to a spot in any given ad schedule.³

How to Calculate

$$\text{GRP's (\%)} \div \text{Frequency} = \text{Reach (\%)}^3$$

- Frequency
 - The average number of times a person or household is exposed to a radio spot.²

How to Calculate:

$$\text{Gross Impressions} \div \text{Net Reach} = \text{Frequency}^2$$

For additional radio terminology, click [here](#)

For additional radio formulas, click [here](#)

Sources: 1) AAAA, RAB, Universal Spot Radio Buying and Selling Terms; 2) Nielsen Terminology and Definitions for Nielsen Radio Diary Service; 3) Fortune-Media Planning & Placement, Media 101