Analysing DAB+ reception in vehicles to compare coverage simulations with real-world data

DAB+ planning, measurement and monitoring
Desmond S. Fuller, Xperi

Geneva, March 2024
What is DTS AutoStage?

Enhancing radio around the world by providing metadata linked to broadcasts via an IP connection

- Live station guides
- Higher-resolution images for new vehicles
- Lyrics
- Additional information about the artist and song
Quick Stats | DTS AutoStage

2.1 Billion Hours of Enhanced Discovery, Engagement & Measured Radio Listening

Global Broadcasters

49,688 Radio Stations
142,530 Live Broadcasts

XPERI

Automakers

12 OEMs In Production
6.5 Million Cars on the Road
DTS AutoStage: Automakers

6 In Final Development – Launching by 1Q 2025

Automotive brand - 13
Automotive brand - 14
Automotive brand - 15
Automotive brand - 16
Automotive brand - 17
Automotive brand - 18
DTS AUTOSTAGE ANALYTICS

STORY OF YOUR STATION IN THE DTS BROADCASTER PORTAL
A PRIVACY-FIRST APPROACH TO DATA ANALYSIS

NO PERSONALLY IDENTIFIABLE DATA: GOOD NEWS FOR THE BROADCASTERS

- Built from the ground up with privacy by design in mind.
- We take cybersecurity and risk mitigation seriously.
- Shielding broadcasters from potential litigation and legal requirements associated with the handling of personal data.
- Broadcasters will only see their stations.
TAKE CONTROL: YOU DECIDE HOW YOUR STATIONS LOOK

<table>
<thead>
<tr>
<th>STATION NAME</th>
<th>STATION REACH CHANGE</th>
<th>STATION REACH CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic Chilled</td>
<td>-1.79% (last 7 days)</td>
<td>53.34% of the market</td>
</tr>
<tr>
<td>Magic Radio</td>
<td>+0.21% (last 7 days)</td>
<td>2.84% of the market</td>
</tr>
<tr>
<td>Magic Soul</td>
<td>0.00% (last 7 days)</td>
<td>0.95% of the market</td>
</tr>
<tr>
<td>Mellow Magic</td>
<td>-0.05% (last 7 days)</td>
<td>0.85% of the market</td>
</tr>
</tbody>
</table>

GB - London
CONTROL + AUDIENCE AWARENESS: PROGRAMMING
QUALITY + METADATA CONSISTENCY
TELLING THE STORY OF YOUR STATION AND AUDIENCE

WHO
- Understand your audience in your markets.

WHERE
- Where is your audience listening and the concentration in your market?

WHEN
- When is your audience tuning in and tuning out during the course of the day?

HOW
- How is your audience tuning into your station – analogue, DAB, HD Radio, etc.?

WHAT
- What programming is attracting the largest audience, and how is content performing.
WHO: STATION REACH AND MARKET PERFORMANCE

Station reach

- Average reach: 2.70% of the market
- Average reach change: -0.25% for selected period
- Total sessions: 117821
- Average session time: 5 min 9 s

Date
- 2/1/2024: Thursday, Reach Value 3.04%, Reach Change +0.07%, Total Sessions 4138, Avg. Session Time 5 min 22 s, Avg. Time Change +25 s
- 2/2/2024: Friday, Reach Value 2.82%, Reach Change +0.37%, Total Sessions 4391, Avg. Session Time 4 min 58 s, Avg. Time Change +15 s
- 2/3/2024: Saturday, Reach Value 3.81%, Reach Change +0.95%, Total Sessions 5455, Avg. Session Time 5 min 17 s, Avg. Time Change +25 s
- 2/4/2024: Sunday, Reach Value 4.04%, Reach Change -0.18%, Total Sessions 4501, Avg. Session Time 5 min 23 s, Avg. Time Change -25 s
- 2/5/2024: Monday, Reach Value 2.39%, Reach Change -0.52%, Total Sessions 3391, Avg. Session Time 5 min, Avg. Time Change -23 s
WHEN: UNDERSTAND YOUR AUDIENCE THROUGHOUT THE DAY – ANY DAY
HOW & WHERE: YOUR AUDIENCE LISTENS
HOW & WHERE: YOUR AUDIENCE LISTENS
WHAT: IS YOUR AUDIENCE LISTENING TO?

<table>
<thead>
<tr>
<th>#</th>
<th>TRACK</th>
<th>ARTIST</th>
<th>ALBUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stumblin’ In</td>
<td>Cyril</td>
<td>Stumblin’ In</td>
</tr>
<tr>
<td>2</td>
<td>Whatever</td>
<td>Ava Max</td>
<td>Whatever</td>
</tr>
<tr>
<td>3</td>
<td>Over</td>
<td>Clock/Clock</td>
<td>Over</td>
</tr>
<tr>
<td>4</td>
<td>Runaway</td>
<td>OneRepublic</td>
<td>Runaway</td>
</tr>
<tr>
<td>5</td>
<td>Cynical</td>
<td>Chris de Sarandy</td>
<td>Cynical</td>
</tr>
<tr>
<td>6</td>
<td>Lifeline</td>
<td>Glockenbach</td>
<td>Lifeline</td>
</tr>
<tr>
<td>7</td>
<td>Single Soon</td>
<td>Selena Gomez</td>
<td>Single Soon</td>
</tr>
<tr>
<td>8</td>
<td>Blindside</td>
<td>James Arthur</td>
<td>Bitter Sweet Love</td>
</tr>
<tr>
<td>10</td>
<td>Alive</td>
<td>Declan J Donovan</td>
<td>Alive</td>
</tr>
<tr>
<td>11</td>
<td>Gimme Love</td>
<td>Sia</td>
<td>Gimme Love</td>
</tr>
</tbody>
</table>
DTS AUTO STAGE ANALYTICS

DTS BROADCASTER PORTAL 2.0 – ENHANCED CONTROL AND FUNCTIONALITY
NEW FUNCTIONALITY: DTS AUTOSTAGE RECEIVERS

Service Obtainable Market during observation period
NEW FUNCTIONALITY: REGION ID & NETWORK SELECTION
NEW FUNCTIONALITY: REGION ID & NETWORK SELECTION
NEW FUNCTIONALITY: REGION ID & NETWORK SELECTION

Top 10 Stations

45.05% of total listening
OTHER INSIGHTS
WHICH TEN COUNTRIES LISTEN ON DAB THE MOST?

IN ALPHABETICAL ORDER

- Australia
- Belgium
- France
- Germany
- Italy
- Netherlands
- Norway
- Sweden
- Switzerland
- United Kingdom
<table>
<thead>
<tr>
<th>TYPE</th>
<th>MARCH 2023</th>
<th>MARCH 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ANALOGUE</td>
<td>21</td>
<td>20</td>
</tr>
</tbody>
</table>
**TOP 25 STATIONS: SWITZERLAND**

Note: As of March 2024, 65% of radio listening in the country is still on analogue

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MARCH 2023</th>
<th>MARCH 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAB</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>ANALOGUE</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
DAB: TWO MULTIPLEXES AND AN FM STATION

- PINK (DAB): 65% OF LISTENING
- BLUE (DAB): 29% OF LISTENING
- YELLOW (FM): 6% OF LISTENING
Big Data has changed every industry. Why should RADIO be left behind?
Provide Xperi with:

1. **Static data**: Station call letters, logo, name, slogan, etc.
2. **Streaming URL**: When your over-the-air signal fades, the listener transitions to your stream.
3. **Live data from the station’s programming system**: Title and artist of songs, name of advertisers from ads running, DJ name/photo

https://onboarding.connectedrad.io
Thank you!