BIRCH RADIO

Methodological Improvements
Description and Results

Revised as of June, 1986
BIRCH RADIO

METHODOLOGICAL IMPROVEMENTS
DESCRIPTION AND RESULTS

REVISED AS OF JUNE, 1986
AGENDA

I. THE IMPROVEMENTS - WHAT, WHY, WHEN

A. CENTRAL CALLING FACILITY INTERVIEWING .......................... 1
B. TOTAL TELEPHONE FRAME SAMPLES ................................. 3
C. "LAST BIRTHDAY" RESPONDENT SELECTION ......................... 5
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E. DAILY SAMPLE REPLICATES ........................................... 9
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Centralized Telephone Interviewing

... What Is It?

1. All data collected from two Birch-owned and -managed calling centers at Sarasota and Coral Springs, Florida.

2. Sarasota facility acquired in September, 1985, from A. C. Nielsen. Facility managers and interviewers previously trained and employed by Nielsen, retrained and employed by Birch.

3. All interviewers:
   - Monitored by Birch management.
   - Must undergo 3 - 5 day intensive training program.
   - Paid by the hour - not by completed interview.

Centralized Telephone Interviewing

... Why Do It?

1. Improve quality assurance.
2. Improve quality of execution.
3. Increase standardization of training procedures and questionnaire administration.
4. Improve sample management.
5. Constant monitoring possible with all interviewers.
6. Increases client confidence in Birch data collection.
TOTAL TELEPHONE FRAME SAMPLES (TTF)

... Why Use It?

1. Sample frame "goodness," the heart of quality research.

2. Birch analysis of available sample frames that could be purchased or developed internally determined TTF to be highest-quality frame available.

3. Existing Birch frame did not assure inclusion of new exchanges.

4. TTF a proven technique ... in use by Nielsen since 1976.

... TTF best, highest-quality sample frame.
"Last Birthday" Respondent Selection (LBRS)

... Why Do It?

1. Previous technique ("NTH oldest" method) difficult for respondents to understand. Overcomes hesitancy to cooperate.

2. LBRS simpler ... 
   - Fewer initial refusals by respondents;
   - Reduction in length of interview.

3. LBRS improves research quality and accuracy.
   - Improves response rates;
   - Sample demographic distributions closer to population.
FULL-MONTH INTERVIEWING

... Why Do It?

1. Continuous measurement minimizes effects of atypical events on sample.
   - News events (shuttle disaster)
   - Weather events

2. Minimizes effects on estimates of concentrated station promotions.
**Daily Sample Replicates (DSR)**

... **What Is It?**

1. Separate, full-market samples for each day of interviewing.

2. "Replicates" full market: individual DSR's are properly balanced by county and zip code population patterns.

DAILY SAMPLE REPLICATES (DSR)

... Why Do It?

Because DSR's give proper representation of full market, for each day of interviewing.
WEIGHTING SYSTEM ENHANCEMENTS

... What Is It?

Two enhancements added, effective with January-March, 1986, Quarterly Summary Report:

1. Probability of Selection Weights. Counteracts unequal chance of selection based on number of individuals within household.

2. Day of Week Weights. Insures that each day of the week represents 1/7th of the total sample.
WEIGHTING SYSTEM ENHANCEMENTS

... Why Do It?

Probability of Selection: Most researchers agree that sampling one randomly-chosen person within a household (Birch method) is superior to sampling all persons in a household (Arbitron method). With this in mind, Probability of Selection weighting assures that all individuals are properly represented, regardless of the size of the household in which they live.

Day of Week: Birch Radio has recently begun increasing weekend sample sizes to improve the reliability and trendability of weekend estimates. Day of week weighting is necessary to maintain proportionate representation of each day of the week in multiple-day estimates.

Arbitron diary return rates vary by household size, which in turn changes the probability of selection of respondents. Researchers generally agree that weighting should be used to compensate for differential probabilities of selection.
<table>
<thead>
<tr>
<th>Area Enhanced</th>
<th>Item</th>
<th>Key Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMPLING</td>
<td>Total Telephone Frame</td>
<td>- Best random-digit dialing frame in use today.</td>
</tr>
<tr>
<td></td>
<td>Daily Sample Replicates</td>
<td>- Assures more representative sampling across days.</td>
</tr>
<tr>
<td></td>
<td>Last Birthday Respondent</td>
<td>- Improves response rates and sample distributions.</td>
</tr>
<tr>
<td></td>
<td>Selection</td>
<td></td>
</tr>
<tr>
<td>DATA COLLECTION</td>
<td>Centralized Telephone</td>
<td>- Improves quality assurance and sample management.</td>
</tr>
<tr>
<td></td>
<td>Interviewing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Full-Month Interviewing</td>
<td>- Reduces effects of atypical events and station &quot;hypoing&quot; activities.</td>
</tr>
<tr>
<td>PROCESSING</td>
<td>Probability of Selection</td>
<td>- Insures proper representation of all persons in tabulated results.</td>
</tr>
<tr>
<td></td>
<td>Weighting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Day of Week Weights</td>
<td>- Allows increased sampling of any days without impacting combination day estimates.</td>
</tr>
</tbody>
</table>
Response Rates Potentially Impacted By:

- Centrally-Monitored Interviewing.
- Total Telephone Frame Samples.
- Last Birthday Respondent Selection.
- Daily Sample Replicates.
- Full Month Interviewing.
**Response Rate Comparison**

**Fall '85 vs. Winter '86**

<table>
<thead>
<tr>
<th>Market</th>
<th>Fall '85</th>
<th>Winter '86</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>47.5%</td>
<td>59.5%</td>
<td>Significant improvement.</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>50.7%</td>
<td>57.1%</td>
<td>Significant improvement.</td>
</tr>
<tr>
<td>Houston</td>
<td>50.5%</td>
<td>58.4%</td>
<td>Significant improvement.</td>
</tr>
<tr>
<td>Dallas</td>
<td>69.8%</td>
<td>68.6%</td>
<td>No significant difference.</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>76.9%</td>
<td>73.6%</td>
<td>Marginal drop</td>
</tr>
</tbody>
</table>

... 3 markets up significantly.

... 1 market unchanged.

... 1 market off slightly.
Sample Distributions Potentially Impacted By:

- Centralized Interviewing.
- Total Telephone Frame Samples.
- Last Birthday Respondent Selection.
- Full Month Interviewing.
- Daily Sample Replicates.
IMPROVEMENTS MADE IN FRAME AND COLLECTION TECHNIQUES IMPROVED SAMPLE DISTRIBUTION.

1. 4 OF 5 MARKETS COMPARED CLOSER TO POPULATION IN WINTER '86.

2. OF 88 DEMO CELL COMPARISONS WITH POPULATION:

- 46 WERE CLOSER IN WINTER '86.
- 31 WERE CLOSER IN FALL '85.
- 11 WERE UNCHANGED OR SAME RELATIVE DIFFERENCE.
## BIRCH RADIO SAMPLE DISTRIBUTION VS. POPULATION

### 5 MARKETS IN DETAIL

<table>
<thead>
<tr>
<th></th>
<th><strong>New York</strong></th>
<th></th>
<th><strong>Los Angeles</strong></th>
<th></th>
<th><strong>Houston</strong></th>
<th></th>
<th><strong>Dallas</strong></th>
<th></th>
<th><strong>Minneapolis</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>POP%</td>
<td>FALL%</td>
<td>WIN%</td>
<td>POP%</td>
<td>FALL%</td>
<td>WIN%</td>
<td>POP%</td>
<td>FALL%</td>
<td>WIN%</td>
<td>POP%</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>12-17</td>
<td>5.3</td>
<td>3.9</td>
<td><strong>4.2</strong></td>
<td>5.1</td>
<td>3.8</td>
<td><strong>4.4</strong></td>
<td>5.6</td>
<td>6.4</td>
<td><strong>6.1</strong></td>
<td>5.4</td>
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<tr>
<td>18-24</td>
<td>6.0</td>
<td>4.3</td>
<td><strong>5.5</strong></td>
<td>7.6</td>
<td>6.2</td>
<td><strong>6.3</strong></td>
<td>7.8</td>
<td>6.0</td>
<td><strong>6.6</strong></td>
<td>7.4</td>
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<tr>
<td>25-34</td>
<td>9.6</td>
<td>9.7</td>
<td><strong>9.7</strong></td>
<td>11.6</td>
<td>10.9</td>
<td><strong>12.3</strong></td>
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<td>13.0</td>
<td><strong>12.6</strong></td>
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<tr>
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<td>6.9</td>
<td><strong>7.7</strong></td>
<td>8.8</td>
<td>7.0</td>
<td><strong>7.9</strong></td>
<td>9.6</td>
<td>7.3</td>
<td><strong>6.5</strong></td>
<td>9.3</td>
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<tr>
<td>45-49</td>
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<td>1.8</td>
<td><strong>2.1</strong></td>
<td>3.1</td>
<td>2.7</td>
<td><strong>1.9</strong></td>
<td>3.1</td>
<td>2.4</td>
<td><strong>2.0</strong></td>
<td>3.1</td>
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<tr>
<td>50-54</td>
<td>3.0</td>
<td>2.1</td>
<td><strong>1.8</strong></td>
<td>2.1</td>
<td>2.7</td>
<td><strong>2.0</strong></td>
<td>2.6</td>
<td>2.3</td>
<td><strong>2.2</strong></td>
<td>2.5</td>
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<tr>
<td>55-64</td>
<td>5.5</td>
<td>5.3</td>
<td><strong>4.8</strong></td>
<td>5.0</td>
<td>5.0</td>
<td><strong>5.1</strong></td>
<td>4.1</td>
<td>4.0</td>
<td><strong>4.2</strong></td>
<td>4.4</td>
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<tr>
<td>65+</td>
<td>5.9</td>
<td>6.2</td>
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<td>9.9</td>
<td><strong>9.9</strong></td>
<td>5.1</td>
<td>5.2</td>
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<td>6.8</td>
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<td><strong>Black</strong></td>
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<td></td>
<td>16.3</td>
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<td>9.8</td>
<td>9.5</td>
<td><strong>7.9</strong></td>
<td>18.0</td>
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<td><strong>17.2</strong></td>
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<td>11.5</td>
<td><strong>13.9</strong></td>
<td>8.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in Winter</th>
<th>New York</th>
<th>Los Angeles</th>
<th>Houston</th>
<th>Dallas</th>
<th>Minneapolis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closer in Winter</td>
<td>11</td>
<td>8</td>
<td>7</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Closer in Fall</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Unchanged/Same Diff.</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

20
Methodology Enhancements Had No Appreciable Effect on Levels

Of 5 market comparisons ...

- No significant difference in 3 markets.

- 1 market (Minneapolis) significantly higher in winter.

- 1 market (Houston) marginally higher in winter.
METHODODOLOGY ENHANCEMENTS HAD NO APPRECIABLE EFFECT ON FORMAT SHARES

1. All formats within 10% of average 4-book shares, past year.
2. Black/Urban, Country marginally higher in Winter '86 (+8-10%).
3. Adult Contemporary marginally lower (-5%) in Winter '86.
4. All other formats within 3% of 4-book average shares.
A Look at Format Shares, Averaged Across 5 Markets

<table>
<thead>
<tr>
<th>Format</th>
<th>4-Book Average Share</th>
<th>Lowest Share</th>
<th>Highest Share</th>
<th>Winter '86 Share</th>
<th>Index Against Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black/Urban</td>
<td>11.3%</td>
<td>10.4%</td>
<td>12.5%</td>
<td>12.5%</td>
<td>110</td>
</tr>
<tr>
<td>Country</td>
<td>11.4%</td>
<td>10.7%</td>
<td>12.4%</td>
<td>12.4%</td>
<td>108</td>
</tr>
<tr>
<td>Album Rock</td>
<td>12.0%</td>
<td>11.3%</td>
<td>12.5%</td>
<td>12.4%</td>
<td>103</td>
</tr>
<tr>
<td>Beautiful Music</td>
<td>5.9%</td>
<td>5.4%</td>
<td>6.1%</td>
<td>6.0%</td>
<td>102</td>
</tr>
<tr>
<td>Contemporary Hit</td>
<td>17.1%</td>
<td>16.2%</td>
<td>17.9%*</td>
<td>16.7%</td>
<td>98</td>
</tr>
<tr>
<td>News/Talk</td>
<td>12.6%</td>
<td>12.2%</td>
<td>13.0%</td>
<td>12.2%</td>
<td>97</td>
</tr>
<tr>
<td>Adult Contemporary</td>
<td>13.4%</td>
<td>12.7%</td>
<td>13.8%</td>
<td>12.7%</td>
<td>95</td>
</tr>
</tbody>
</table>

*Summertime listening bolstered by teen availability.

Mon.-Sun. 6 AM-Midnight
Persons 12+ AQH Metro Shares
Spring '85 - Winter '86
New York, Los Angeles, Houston, Dallas, Minneapolis/St. Paul
Birch Quarterly Summary Reports
WHERE FORMAT CHANGES WERE OBSERVED ...

- DIRECTIONAL?
- RANDOM?
- SEASONAL?

LET'S LOOK AT ADULT CONTEMPORARY,
BLACK/URBAN, COUNTRY ...
### Adult Contemporary Changes Were Random

<table>
<thead>
<tr>
<th>Market</th>
<th>4-Book Average* Share</th>
<th>Winter '86 Share</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>10.9%</td>
<td>12.1%</td>
<td>Winter '86 HIGHER.</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>8.2%</td>
<td>9.3%</td>
<td>Winter '86 HIGHER.</td>
</tr>
<tr>
<td>Houston</td>
<td>15.9%</td>
<td>12.5%</td>
<td>Winter '86 LOWER.</td>
</tr>
<tr>
<td>Dallas</td>
<td>15.5%</td>
<td>14.6%</td>
<td>Winter '86 LOWER, but equal to Summer '85.</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>16.3%</td>
<td>15.3%</td>
<td>Winter '86 LOWER, but higher than Fall '85.</td>
</tr>
</tbody>
</table>

... No clear direction or pattern.

Mon.-Sun. 6 AM-Midnight
Persons 12+ AQH Metro Shares
Spring '85 - Winter '86
New York, Los Angeles, Houston,
Dallas, Minneapolis/St. Paul
Birch Quarterly Summary Reports
## Black/UrbAn Changes Were Random

<table>
<thead>
<tr>
<th>Market</th>
<th>4-Book Average Share</th>
<th>Winter '86 Share</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>13.3%</td>
<td>16.1%</td>
<td>Winter '86 significantly higher and highest year-to-date, but consistent with trend: 11.2-12.8-13.2-16.1.</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>6.9%</td>
<td>7.8%</td>
<td>Winter '86 higher than average but lower than Summer '85.</td>
</tr>
<tr>
<td>Houston</td>
<td>12.0%</td>
<td>13.7%</td>
<td>Winter '86 higher than average, but consistent with 3-book trend: 10.6-12.3-13.7.</td>
</tr>
<tr>
<td>Dallas</td>
<td>13.0%</td>
<td>12.4%</td>
<td>Winter '86 lower than average and 2nd lowest year-to-date.</td>
</tr>
</tbody>
</table>

Mon.-Sun. 6 AM-Midnight
Persons 12+ AQH Metro Shares
Spring '85 - Winter '86
New York, Los Angeles, Houston, Dallas
Birch Quarterly Summary Reports
<table>
<thead>
<tr>
<th>Market</th>
<th>4-Book Average</th>
<th>Winter '86</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS ANGELES</td>
<td>3.2%</td>
<td>3.8%</td>
<td>Winter '86 marginally higher and highest of 4 books.</td>
</tr>
<tr>
<td>HOUSTON</td>
<td>14.7%</td>
<td>15.6%</td>
<td>Winter '86 marginally higher, tied with Spring '85.</td>
</tr>
<tr>
<td>DALLAS</td>
<td>17.6%</td>
<td>20.0%</td>
<td>Winter '86 higher and highest of 4 books. Country shares have increased 15.4-16.4-18.6-20.0 over past 4 quarters.</td>
</tr>
<tr>
<td>MINNEAPOLIS</td>
<td>10.2%</td>
<td>10.5%</td>
<td>No appreciable difference.</td>
</tr>
</tbody>
</table>

... While directional pattern overall, individual market trends indicate random change.

Mon.-Sun. 6 AM-Midnight
Persons 12+ AQH Metro Shares
Spring '85 - Winter '86
LOS ANGELES, HOUSTON, DALLAS,
MINNEAPOLIS/ST. PAUL
BIRCH QUARTERLY SUMMARY REPORTS
SUMMARY OF METHODOLOGICAL ENHANCEMENTS ON REPORTED ESTIMATES

Based on the 5-market analysis quoted herein, the improvements initiated by Birch Radio since September, 1985, have had the following results overall:

1. Response Rates have improved overall.
2. Sample Distributions have improved.
3. No appreciable effect on Listening Levels.
4. No appreciable effect on Format Shares.
Birch Radio Research

We give you more, more often
Dear Bruce:

As previously promised (in my letter of May 29, 1987), attached is a booklet which was recently sent to Ron Werth entitled, "Methodological Improvements Description and Results." Additionally, you'll find three additional pages of improvements which enhances the booklet.

Thank you for your cooperation in working with the Birch Radio Ratings organization.

June 16, 1987

New York, N.Y. 10017

I beg hemmerfold plaza

Republic Radio

Mr. Bruce Hoban

June 16, 1987
Sample Frame: Old - Modified Sudman Technique
New - Nielsen's Total Telephone Frame

Comments: This technique was produced by the A.C. Nielsen company and used by them since 1976. It is a qualified random digit sampling frame providing equal opportunity for both listed and non-listed households. The benefit of this sample frame over most existing sample frames is that it is updated twice annually to insure the inclusion of new exchanges. This is a Birch Radio Ratings exclusive. Implemented at Birch in March, 1986.

Selection: Old - S.P.P.H.

Table of Random Numbers:

A person was randomly selected from a census occurred in the household and a census was used.

Comments: This technique was tested in March, August and September, 1985. It was implemented at Birch in January, 1986. A Birch Radio Ratings exclusive. This technique is used to insure the inclusion of new exchanges. This sample frame is produced by the A.C. Nielsen company and used by them since 1976. It is a qualified random digit sampling frame providing equal opportunity for both listed and non-listed households. The benefit of this sample frame over most existing sample frames is that it is updated twice annually to insure the inclusion of new exchanges. This is a Birch Radio Ratings exclusive. Implemented at Birch in March, 1986.

Comments: This technique was produced by the A.C. Nielsen company and used by them since 1976. It is a qualified random digit sampling frame providing equal opportunity for both listed and non-listed households. The benefit of this sample frame over most existing sample frames is that it is updated twice annually to insure the inclusion of new exchanges. This is a Birch Radio Ratings exclusive. Implemented at Birch in March, 1986.
March, 1986. Calling and was fully implemented by
Centralized Calling.

Comments: This rolled out with Centralized
Calling.

The month.

Market was sampled 28 days out of
Full month of Interviewing. Every
Market.

The two weeks were randomized in every
Measurement two weeks out of a month.

March, 1986. Calling and was fully implemented by
Centralized Calling.

Measured by March, 1986, out of
September, 1985, full market were
Texas, market roll-out began in
Spriing, Florida and San Antonio.
Facilities were opened in Coral
and employed by Birch.
Additional facilities were both
and employed by Nielsen were retained
Interviewers were previously trained
Company. The facility managers and
Sarasota facility was acquired in
September, 1985 from the A.C. Nielsen.
Florida and San Antonio, Texas.
The centers in Sarasota, Coral Spring,
Birch-owned and managed calling.
All data is collected from three

Comments: All data is collected from three
Interviewing Environment. Utilized To
A highly-controlled and centralized

Their home.

Market or individual working out of
In Interviewing centers within a local
Basis. They could have been located
and worked for Birch on a contract
Local market Interviewers were hired

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Collection Data
Centralized Watts

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