FROM CODES TO CREDIT

DATA EDITING IN OUR PPM RADIO SERVICE

2017 EDITION

FROM CODES TO CREDIT

This booklet includes a description and visual example of several key Portable People Meter™ (PPM™) data edit procedures. By reading this booklet from beginning to end, you will be able to trace the path from a station's PPM codes to a Quarter-Hour of listening credit. We hope this information increases your understanding of our technology and your confidence in our PPM audience estimates..

WHAT ARE PPM EDIT PROCEDURES?

PPM data edit procedures are a set of rules. As the system processes the data, it applies the appropriate rules as needed. These rules arrange the data, reconcile incomplete or invalid data, and assign listening credit to radio stations for the data. As a group, these rules increase the estimates' validity compared to what the estimates' validity may have been, had we used unedited data to produce them. To better understand how our data editing rules work, we must first review exactly what information is in a PPM code.

WHAT IS A PPM CODE?

A PPM code is a sound wave. That sound wave includes an attention signal (that tells the Panelist's meter that more information is coming), the station's unique PPM station identifier, a time stamp that notes the moment the encoder transmitted that code, and additional copies of this information.

As often as every five seconds, a station's encoder may insert a new code into the station's signal. This means that a station has up to three chances every 15 seconds to receive listening credit. This is far more information than our system needs to assign listening credit.

WHEN A PANELIST LISTENS TO ENCODED RADIO

When a Panelist listens to an encoded radio station, his or her meter receives the station's codes and stores them in its memory.

The meter then adds its own time stamp to each code indicating the time that it received the code and a marker that indicates the meter's assessment of the code's quality. The collection of codes, time stamps, and quality markers form a "log" of the Panelist's radio listening.

AS IT COLLECTS DATA FROM THE PANEL DAY, THE PPM SYSTEM APPLIES A SERIES OF EDITS TO THE DATA. THESE EDITS HELP CONVERT THE DATA FROM RAW INFORMATION INTO A MEANINGFUL RECORD OF THE PANEL'S RADIO LISTENING...

DATA COLLECTION

Our system collects information from Panelists each day. The system determines if a Panelist is In-Tab for that day and the code editing process begins.

ORGANIZING THE CODES

The system downloads the Panelist's listening log into the PPM data system in chronologically ordered 15-second segments.

Time	Code*
12:46:00	@12YZ
12:46:15	@12YZ
12:46:30	@9W2A
12:46:45	@12YZ

* Note: The visual representations of codes in this brief are overly simplistic
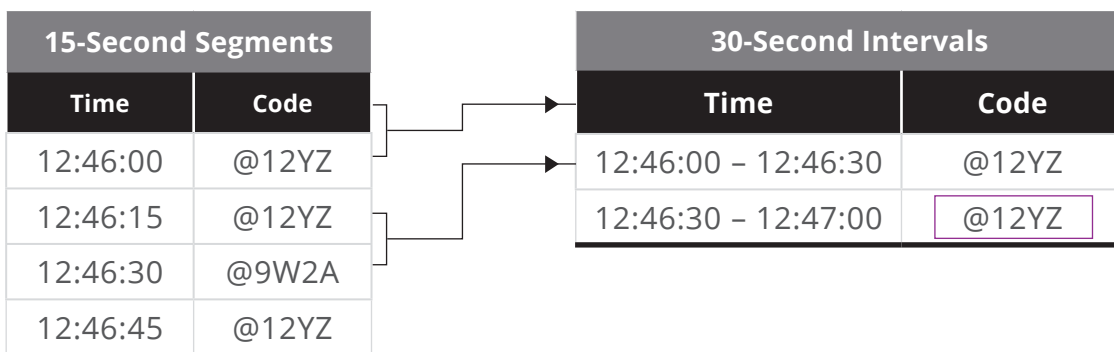
WHAT HAPPENS WHEN A METER HEARS TWO STATIONS' CODES IN A 15-SECOND SEGMENT?

The system then groups the 15-second segments into 30-second intervals that correspond to either the first or second half of a clock minute.

While most segments will include a single station's code, if a particular 30-second interval includes two different codes (suggesting that the Panelist tuned into more than one station during that 30-second interval), the system keeps the last code in the sequence. If, however, the first code in the sequence is complete and the second code is not, the system will keep the first code.

In the following example, the system keeps code @12YZ (rather than @9W2A) for the 12:46:30 to 12:47:00 block because it was the last code in the 30-second interval.

15-Second Segments	
Time	**Code**
12:46:00	@12YZ
12:46:15	@12YZ
12:46:30	@9W2A
12:46:45	@12YZ

30-Second Intervals	
Time	**Code**
12:46:00 – 12:46:30	@12YZ
12:46:30 – 12:47:00	@12YZ

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WHAT HAPPENS WHEN A METER DOESN'T HEAR ALL OF A CODE?

While most of the codes that the system will eventually credit to a radio station are complete when a Panelist's meter hears them, it is possible that the meter may not hear all of a particular code.

When a meter does not hear all of a code, the system reviews other codes in that Panelist's listening log in the 15 minutes prior to and the 15 minutes following the incomplete code.

If the incomplete code is one character-off from a code within that 30-minute window and meets other technical criteria, the system credits that code to the time corresponding to the incomplete code. In the following example, the system credited code @12YZ to 12:48:30 via the one-off edit.

Time	Before Editing
12:48:00	@12YZ
12:48:30	@12Y- -
12:49:00	@12YZ
12:49:30	@12YZ

After Editing	Edit Type
@12YZ	—
@12YZ	One-off
@12YZ	—
@12YZ	—

When it does not meet the one-off criteria, the system will credit a code from the media outlet broadcasting in that same medium (i.e. radio or television) as the incomplete code that is nearest to the time corresponding to the incomplete code. When it applies the Same Medium edit, the system looks to the five minutes before and the five minutes after the incomplete code for a code to credit.

The system credits the majority of all incomplete codes, however, via the One Character Off rule.

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LEAD-IN EDIT

To account for the possibility that it may take a moment for the Panelist's meter to receive the station's code when the Panelist first tunes into the station, the system applies a Lead-In edit to the beginning of each listening event. This edit helps ensure that the radio station receives credit immediately after the Panelist tuned to the station.

Via the Lead-In edit, a radio station receives credit for up to the 60 seconds immediately prior to when the Panelist tuned into a station—assuming, of course, that the Panelist was not tuned into another station at that time. In the following example, assume the Panelist started listening to station @12YZ at exactly 12:46.

Time	Before Editing
12:45:30	—
12:46:00	@12YZ
12:46:30	@12YZ

After Editing	Edit Type
@12YZ	Lead-In
@12YZ	—
@12YZ	—

The Lead-In edit may also bridge a brief gap within an extended listening period. In the following example, assume that at 12:56, the Panelist drove through a tunnel and lost station reception; upon exiting the tunnel at 12:56:30, station reception resumed. In this circumstance, the Lead-In edit bridges the gap in the station's listening caused by the brief loss of the station's signal.

Time	Before Editing
12:55:30	@12YZ
12:56:00	—
12:56:30	@12YZ
12:57:00	@12YZ

After Editing	Edit Type
@12YZ	—
@12YZ	Lead-In
@12YZ	—
@12YZ	—

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CONSOLIDATING 30-SECOND INTERVALS INTO MINUTES

Next, the system bundles the 30-second intervals into minutes of listening. Following is a before and after example. The before shows the station credit as 30-second intervals; the after shows the same converted to minutes of listening credit.

Before				After	
Time	Before Editing	After Editing	Edit Type	Time	Code
12:45:00	—	@12YZ	Lead-In	12:45	@12YZ
12:45:30	@12YZ	@12YZ			
12:46:00	@12YZ	@12YZ	—	12:46	@12YZ
12:46:30	@12YZ	@12YZ	—		
12:47:00	@12YZ	@12YZ	—	12:47	@12YZ
12:47:30	@12YZ	@12YZ	—		
12:48:00	@12YZ	@12YZ	—	12:48	@12YZ
12:48:30	@12Y- -	@12YZ	One-Off		
12:49:00	@12YZ	@12YZ	—	12:49	@12YZ
12:49:30	@12YZ	@12YZ	—		
12:50:00	@12YZ	@12YZ	—	12:50	@12YZ
12:50:30	@12YZ	@12YZ	—		
12:51:00	@- - - - - - -	@12YZ	Same Medium	12:51	@12YZ
12:51:30	@12YZ	@12YZ	—		
12:52:00	@12YZ	@12YZ	—	12:52	@12YZ
12:52:30	@12YZ	@12YZ	—		
12:53:00	@12YZ	@12YZ	—	12:53	@12YZ
12:53:30	@12YZ	@12YZ	—		
12:54:00	@12YZ	@12YZ	—	12:54	@12YZ
12:54:30	@12YZ	@12YZ	—		
12:55:00	—	@12YZ	Lead-in	12:55	@12YZ
12:55:30	@12YZ	@12YZ	—		

Note: If two different stations receive credit for a particular clock minute's 30-second interval, then both stations receive credit for the minute. Because of the way the system organizes listening, it is not possible for more than two radio stations to be eligible for credit for a single minute.

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BUILDING QUARTER-HOURS

The system builds Quarter-Hours of listening credit by combining minutes of listening. The system will credit a code for any Quarter-Hour when the Panelist listens to the station for five or more minutes during that Quarter-Hour.

Time	Code
12:45	@12YZ
12:46	@12YZ
12:47	@12YZ
12:48	@12YZ
12:49	@12YZ
12:50	@12YZ
12:51	@12YZ
12:52	@12YZ
12:53	@12YZ
12:54	@12YZ
12:55	@12YZ

1 Quarter-Hour of credit to code @12YZ (12:45 – 1:00)

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STATION CREDIT

In the final step of the process, the system cross-references the codes against its station information database. During this translation, the system assigns credit to a station for all of its codes and the Quarter-Hours of listening associated with them. Because code @12YZ identifies WAAA-FM, the station receives one Quarter-Hour of listening for the 12:45 to 1:00 Quarter-Hour.

Quarter-Hour	Code	Station Associated With Code
12:45 – 1:00	@12YZ	WAAA-FM Receives Credit

Because we will not assign the same PPM code to more than one station, a station may be confident that it receives credit for all of its codes, and for only its codes.

STATION CREDIT PROCESS

Time	Code
12:45:00	@12YZ
12:45:15	@12YZ
12:45:30	@12YZ
12:45:45	@12YZ
12:46:00	@12YZ
12:46:15	@12YZ
12:46:30	@12YZ
12:46:45	@12YZ
12:47:00	@12YZ
12:47:15	@12YZ
12:47:30	@12YZ
12:47:45	@12YZ
12:58:00	@12YZ
12:58:15	@12YZ
12:58:30	@12YZ
12:58:45	@12YZ
12:59:00	@12YZ
12:59:15	@12YZ
12:59:30	@12YZ
12:59:45	@12YZ

15-SECOND SEGMENTS

Time	Code
12:45:00	@12YZ
12:45:30	@12YZ
12:46:00	@12YZ
12:46:30	@12YZ
12:47:00	@12YZ
12:47:30	@12YZ
12:58:00	@12YZ
12:58:30	@12YZ
12:59:00	@12YZ
12:59:30	@12YZ

30-SECOND INTERVALS
Noise codes removed.
Last best, one-off, lead-in, and same medium edits made to codes.

Time	Code
12:45	@12YZ
12:46	@12YZ
12:47	@12YZ
12:58	@12YZ
12:59	@12YZ

MINUTES

Time	Code
12:45-1:00	@12YZ

QUARTER-HOUR
5+ minutes of listening

WAAA 106FM smooth

STATION CREDIT

'AT HOME' LISTENING

We provide each household with an in-home location beacon. This beacon emits a low-power radio frequency. The system reports listening as taken place "At Home" for all credited Quarter Hours during which the Panelist's meter received the beacon's signal at least once during the Quarter Hour.

TIME-SHIFTED LISTENING

By comparing a PPM code's time stamp and the time stamp the Panelist's meter appended to the code, the system identifies when the Panelist listened to radio at a time later than the audio's original broadcast time.

Under certain conditions, a radio station may receive credit for listening that is time-shifted up to one day after the original broadcast

For additional information, see the separate policy brief "Time-Shifted Radio Listening" available on the Nielsen client portal, Nielsen Answers..

PANELIST TRAVEL

We collect data from Panelists every day, including when the Panelist is travelling away from home. We instruct all Panelists to take their meters when travelling away from home for two weeks or less.

SECURITY

We developed procedures that help ensure the ratings do not include inauthentic listening or a single Panelist's listening represented as the listening of multiple Panelists. These procedures are objective and empirical.

Due to their sensitive nature, our meter security measures, and the analyses that support them remain confidential.

PPM RATINGS ARE BASED ON AUDIENCE ESTIMATES AND ARE THE OPINION OF NIELSEN AND SHOULD NOT BE RELIED ON FOR PRECISE ACCURACY OR PRECISE REPRESENTATIVENESS OF A DEMOGRAPHIC OR RADIO MARKET.

FOR ADDITIONAL INFORMATION

See the other policy briefs available for view on the Policy & Guidelines Information page on the Nielsen client portal, Nielsen Answers.

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