

## POLICY BRIEF

# PPM ENCODER CLOCKS

## PPM TIME STAMPS

Every PPM encoder has an internal clock. This clock inserts an 'encoder time stamp' into the PPM codes that the encoder transmits.

Every PPM also includes a clock. When the Panelist listens to encoded radio, the Panelist's meter appends a 'meter time stamp' to each PPM code that it received.

This means that the PPM codes have two time stamps – an encoder time stamp and a meter time stamp.

## COMPARING TIME STAMPS

As the PPM system assigns listening credit to radio stations, it compares all of a station's encoder time stamps to the meter time stamps in each of the credited PPM codes.

The system makes these comparisons for each individual Panelist in order to identify time-shifted listening and in aggregate to identify if an encoder's clock may have drifted.

## ENCODER CLOCK DRIFT

When we built your station's encoder, we programmed its internal clock to Coordinated Universal Time (UTC). As is the case with any other electronic clock, a PPM encoder's clock may gradually drift away from UTC over time.

## DATA ADJUSTMENT PROCEDURES

The PPM processing system includes data adjustment procedures that account for encoder clock drift.

Should the system discover that all of an encoder's time stamps do not match the corresponding meter time stamps, it will apply a 'correction factor' to the encoder time stamps.

By bringing the meter time stamps and encoder time stamps into better alignment, this data adjustment helps ensure that

the station receives listening credit for the appropriate Quarter Hours.

## HOW MUCH CLOCK DRIFT IS TOO MUCH?

In our opinion, it is acceptable for a PPM encoder's clock to drift up to 60 seconds per year. This means that, over years of service, the cumulative drift of an encoder's clock away from UTC may be several minutes.

If you have concerns about your encoder clock, we recommend that your station engineer contact our Encoding Support Team for assistance.

Because of our data adjustment procedures, clock drift is unlikely to affect station crediting or reporting. Nevertheless, we will provide replacement encoders to any station whose encoder clock has drifted five minutes or more.

## CONNECTING TO A MASTER CLOCK

If you are concerned about your encoder's clock, you may want to consider connecting the encoder to your station's master clock.

An Encoding Support Team Engineer can provide additional information about master clock syncing upon request.

## CONTACT

**Encoding Support Team 24/7 Hotline: 866-767-7212**

**For additional information or detailed analyses:**

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