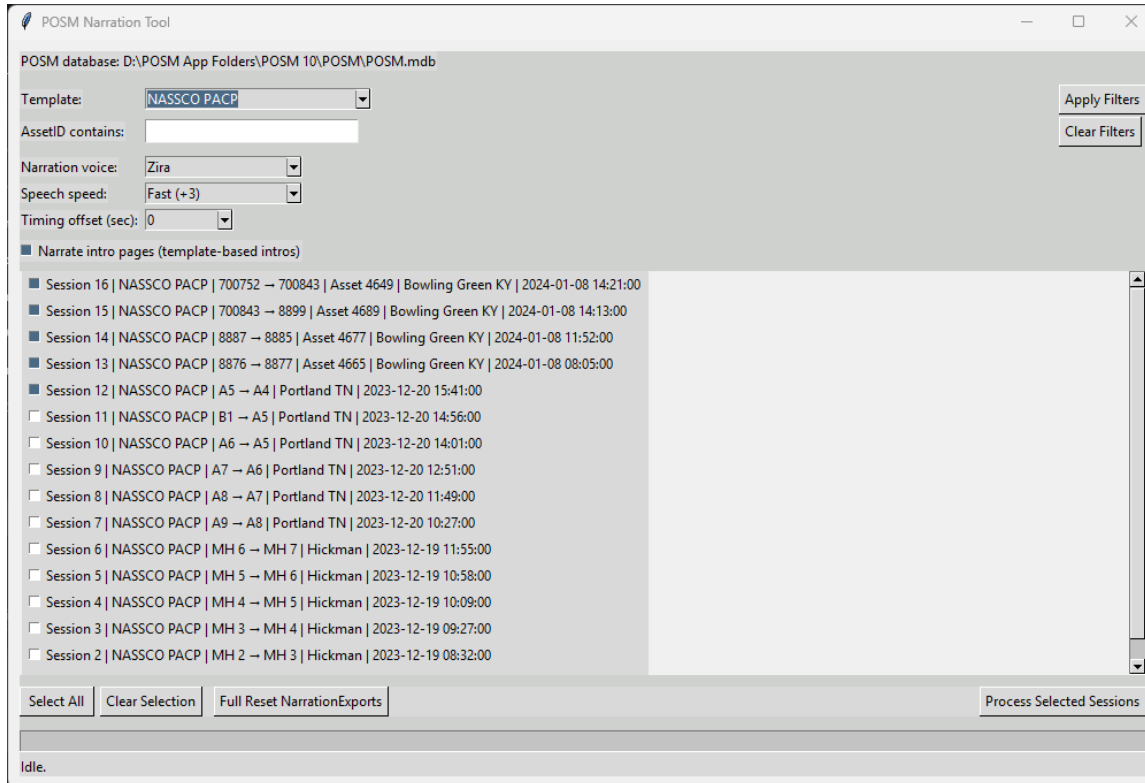


## POSM Narration Tool Installation & Usage Instructions



### 1. Overview

The POSM Narration Tool automates the creation of narrated sewer inspection videos by:

- Exporting scripted narration from POSM session data
- Generating SAPI-based WAV audio files with customizable voice and speed
- Merging narration audio into the original inspection video
- Providing per-session timing offset adjustments ( $\pm 10$  seconds) to compensate for analog delays

## 2. What You Need

Before running the POSM Narration Tool, confirm the following:

1. The tool EXE is placed inside a POSM application folder.  
(This folder must contain POSM.mdb and the Video/ directory.)
2. ffmpeg is installed (script will prompt via winget if not found).
3. The 32-bit Microsoft Access Database Engine is installed.
4. Windows SAPI voices are available (David or Zira).

## 3. Installing the Tool

1. Copy "POSM Narration Tool.exe" into the POSM application directory.
2. (Optional) Run "Run-This-First.cmd" to verify ffmpeg and Access ODBC drivers.
3. Double-click "POSM Narration Tool.exe" to launch.

## 4. Understanding the Interface

The interface contains:

- Template dropdown: filter sessions by POSM template type.
- AssetID filter: show only sessions matching a partial asset ID.
- Narration voice selector: choose David, Zira, or system default.
- Speech speed selector: from very slow to very fast.
- Timing Offset selector: adjust narration timing from -10 to +10 seconds.
- Session list: check one or more sessions to process.
- "Process Selected Sessions" button: runs the full pipeline.
- Progress bar: updates once per completed session.
- Status line: shows real-time progress inside each session.

## 5. Timing Offset Explanation

Some older analog inspection systems introduce several seconds of delay between the camera time and POSM-recorded timestamps.

Use the Timing Offset control to correct alignment:

- Negative values: narration begins earlier.
- Positive values: narration begins later.
- Example: If narration starts too late compared to onscreen observations, choose offset -2 or -3 seconds.

## 6. How to Use the Tool

1. Launch the tool inside the POSM folder.
2. Apply any filters (Template, AssetID) to narrow results.
3. Select a narration voice.
4. Select a speech speed.
5. OPTIONAL: Set the timing offset.
6. Check one or more sessions from the checklist.
7. Click "Process Selected Sessions."

The tool will:

- Reset NarrationExports directory
  - Export CSV narration scripts
  - Generate narration WAV audio
  - Merge WAV audio into whole-run videos
  - Clean up WAVs and clips after merging
8. Wait for the final summary popup.

## 7. Output Location

- The original inspection video is renamed with a .orig extension and kept in the session's own POSM video folder, inside the POSM Video directory.
- The new video with narration is written into that same session video folder, using the original filename.

## 8. Troubleshooting

- Tool freezes on "Starting pipeline...":
  - Run tool via `python posm\_narration\_gui.py` to view error.
  - Usually caused by missing offset variable or missing Access driver.
- IM002 ODBC error:
  - Install 32-bit Access Database Engine.
- ffmpeg merge fails:
  - Ensure ffmpegLGPL.exe exists in bin/x64\_ffmpeg or is installed via winget.
- Narration does not align with video:
  - Adjust Timing Offset  $\pm 1-5$  seconds.

## 9. Rebuilding the EXE (for developers)

Run from a clean local folder (not Dropbox/OneDrive):

```
python -m PyInstaller --clean --onefile --noconsole --icon=posm_narration.ico  
posm_narration_gui.py --name "POSM Narration Tool"
```

Copy the resulting EXE from the dist/ folder into a POSM installation directory.

***Note: It is best to only process videos once. If they need to be processed again, restore the original video/s in the media folder and run Narration Tool again.***