# Interactive Listening Guide Template Instructions
(including the AABA, I-vi-IV-V, and 12-bar blues templates)

Templates developed in Flash by Dr. Scott D. Lipscomb ©2005

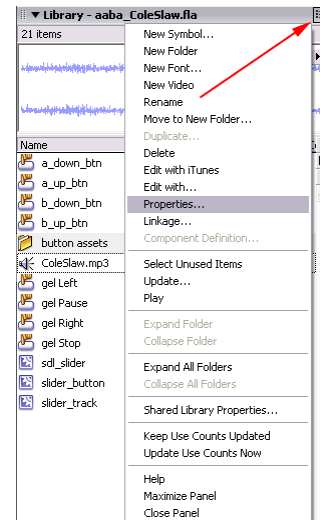To create your own interactive listening guide, simply follow the steps below:

- start Flash and open the appropriate template file:
  - AABA: "aaba_template.fla"
  - I-vi-IV-V: "I-vi-IV-V_template.fla"
  - 12-bar blues: "12barBlues_template.fla"
- immediately, save the file with a new name, so the template file always remains unchanged
  - I recommend adopting a simple naming convention such as: "aaba_*SongTitle*.fla" or "12barblues_*SongTitle*.fla," replacing *SongTitle* with the name of the musical example you will use
  - as a general rule, you should *avoid using spaces and/or special characters in file names* that will be accessed via the internet
- select an MP3 file that exemplifies the appropriate song structure and import it into the movie's library
  - **File→Import→Import to Library…**
  - then browse to the file, select it, and click on the "Open" button
- once the import process has completed …
  - click on frame 1 of the "music" layer in the Timeline panel
  - open the movie's Library (**Window→Library**), select the MP3 file listed in the Library window, then drag-and-drop it anywhere on the Stage
    - you will know you have succeeded when you see a representation of the digital sound file in the "music" layer
    - in order for the Listening Guide to work properly, the sound Sync mode *must* be set to "Stream"; to check this …
      - open the Properties window (**Window→Properties**) and check the setting; *if you do not see the complete set of options in the image below, click on the downward pointing triangle in the lower right corner of the Properties window to expand the information area*

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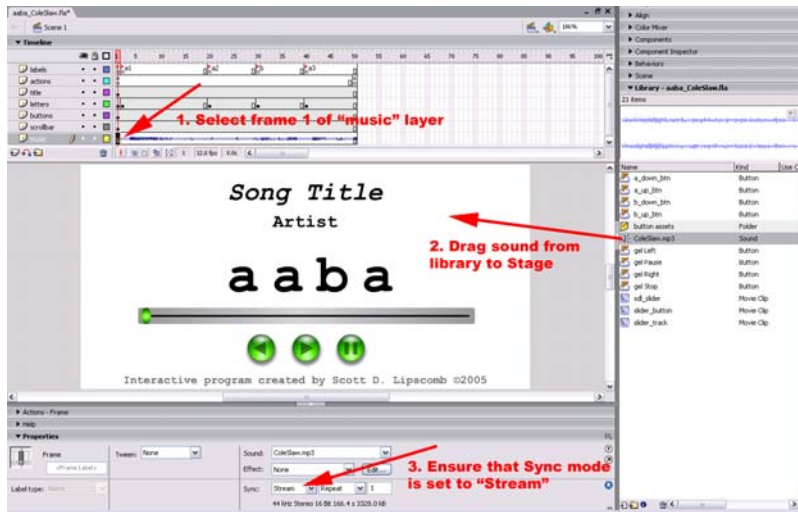
- Now you must increase the number of frames in your Flash movie so that it extends for the entire duration of your song. In order to calculate this value, we must determine the duration for the sound file and the frame rate of our movie
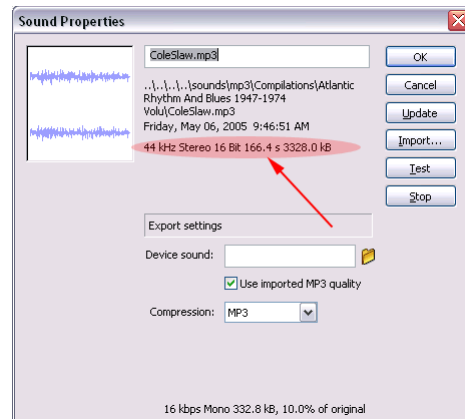- sound file duration:
  - o select the MP3 sound file in your movie's Library, then open the Library Panel options menu by clicking in the upper right corner of the panel
  - o select "Properties…" from the list of menu items
  - o in the "Sound Properties" window, notice that the following information is provided for the sound file I imported:
    sample rate – 44 kHz
    channels – stereo
    bit depth – 16 bit
    duration – 166.4 seconds
    file size – 3328.0 kilobytes
- determine the frame rate of your movie:
  - o click any empty area on the stage and look at the Properties window, where you will find information about your movie, including its size, background color, and frame rate; the default frame rate of *12 fps* (frames per second) will work fine for the Listening Guide
- to calculate the number of frames needed, simply multiply the duration of your musical example (in seconds) by the frame rate
  - o for my song this would be 166.4 x 12 = 1,996.8 (rounded up to 1,997)

- in the "music" layer of the Timeline window, scroll to this frame number and right-click (Win) or Control-click (Mac) on that frame of the "music" layer, then select "Insert Frame" from the pop-up window that appears
    - you may have to do this several times, since you may be limited in the number of empty frames Flash will allow you to scroll [Hint: if you click on the Options menu in the upper right corner of the Timeline window, you can select "Tiny," allowing you to see a greater number of frames at a single glance. You will probably want to change this setting back to "Normal" once you have inserted the appropriate number of frames.]
- for every layer *except* the "actions" layer, follow the directions above to insert a frame (not a keyframe) on this final frame of your movie
    - click on the final empty frame in the appropriate layer
    - press **F5** or select **Insert→Timeline→Frame**
- on the "actions" layer, select the final keyframe (frame 50 for the AABA & I-vi-IV-V templates or frame 130 for the 12-bar blues template and release the mouse button. Once the frame is selected, click-and-drag it to the final frame calculated in the steps above, so that the "actions" layer is equal in length to all of the other layers.
    - alternatively, you can right-click (Win) or Control-click (Mac) on the final keyframe on the "actions" layer and select "Cut Frames," then right-click (Win) or Control-click (Mac) the last frame of your movie on the "actions" layer and select "Paste Frames"

Setting up the Keyframes

You are now prepared to arrange the keyframes (the filled black circles) located on the "letters" layer of this Flash movie, so that they accurately represent the musical form of your selected musical example. This process is a bit time-consuming, but – with practice – will become second nature and will allow you to create additional Listening Guides at the rate of about one every 10-15 minutes … well worth the time invested, when considered in terms of the potential enhancement of student learning and musical understanding.

To familiarize yourself with the content of each of the keyframes contained on the "letters" layer, look at the content of the stage as you click on the keyframes located in frames 1, 10, 20, 30, & 40. As you can see, these frames are distinguished one from another in the following way:

1. AABA template
    - frame 1 – no section is highlighted
    - frame 10 – 1st "A" section is highlighted
    - frame 20 – 2nd "A" section is highlighted
    - frame 30 – "B" section is highlighted
    - frame 40 – final "A" section is highlighted
2. I-vi-IV-V template
    - frame 1 – no section is highlighted
    - frame 10 – I-chord section is highlighted
    - frame 20 – IV-chord section is highlighted

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- o   frame 30 – IV-chord section is highlighted
- o   frame 40 – V-chord section is highlighted
3.   12-bar blues template
- o   frame 1 – no section is highlighted
- o   frame 10 – measure 1 of 12-bar structure is highlighted
- o   frame 20 – measure 2 of 12-bar structure is highlighted
- o   frame 30 – measure 3 of 12-bar structure is highlighted
- o   frame 40 – measure 4 of 12-bar structure is highlighted
- o   frame 50 – measure 5 of 12-bar structure is highlighted
- o   frame 60 – measure 6 of 12-bar structure is highlighted
- o   frame 70 – measure 7 of 12-bar structure is highlighted
- o   frame 80 – measure 8 of 12-bar structure is highlighted
- o   frame 90 – measure 9 of 12-bar structure is highlighted
- o   frame 100 – measure 10 of 12-bar structure is highlighted
- o   frame 110 – measure 11 of 12-bar structure is highlighted
- o   frame 120 – measure 12 of 12-bar structure is highlighted

The process of setting up keyframes consists of simply moving or copying the appropriate keyframe to the desired location within the Flash movie. [For this process, you may want to set the Timeline window to the "Tiny" setting, so you can see more frames concurrently; see instructions above.]

To determine where a keyframe should be placed, you can use either of the two methods described below:
1.   use the Controller toolbar like you would to control a CD player

  a.   if you don't see this toolbar, select Window→Toolbars→Controller

2.   click-and-drag the "Playback marker" and you will hear the sound file as you drag (the Sync mode of the sound file *must* be set to "Stream")

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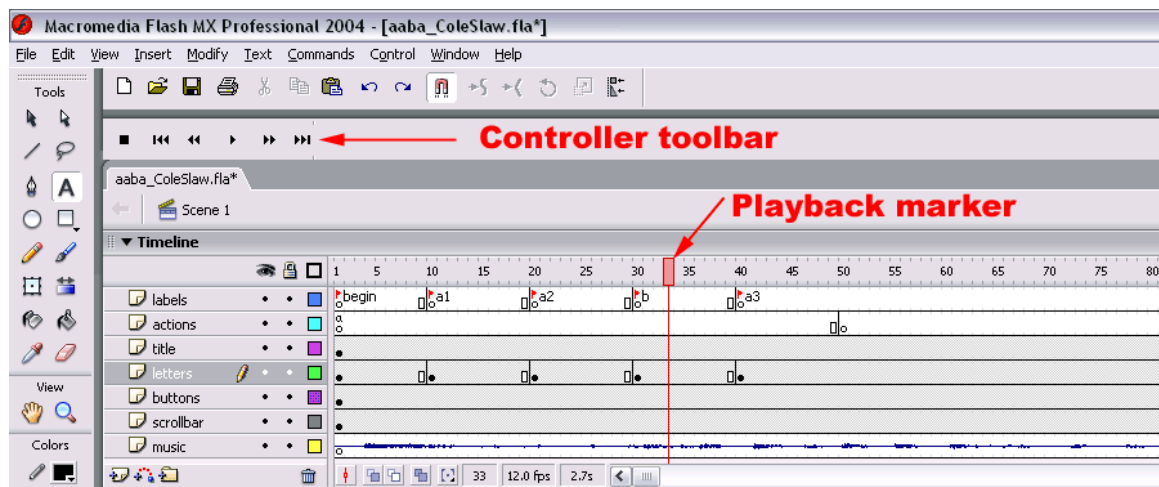
For the first chorus of your musical selection, you will need to move each of the initial keyframes to its appropriate position in the first chorus of the song. The most efficient way to accomplish this task is to carefully follow the steps below:

1. using the control toolbar to play back the sound file, locate within your movie the exact frame number where the initial keyframe should be located (i.e., the beginning of the first chorus of your musical form)
2. select the keyframe on bar 10 of the template
3. while holding the **SHIFT** key down, click on the final keyframe to select all keyframes in between frame 10 and the final keyframe
    a. the first time you do this, the final keyframe will be found in measure 40 for the AABA and I-vi-IV-V templates and measure 120 for the 12-bar blues template
4. click anywhere in the range of highlighted cells and (without releasing the mouse button) drag the selected frames until the first keyframe is located in the frame representing the beginning of the first chorus, then release the mouse button; this moves *all* keyframes at the same time
5. next, click on the second keyframe of your musical form (highlighting the second "A" of the AABA form, the vi-chord of the I-vi-IV-V progression, or bar 2 of the 12-bar blues form), and return to step three above
6. repeat this process until you have located all four (for the AABA and I-vi-IV-V templates) or twelve (for the 12-bar blues template) keyframes to the appropriate position in the first chorus of your sound file

You have now successfully completed the first chorus of your interactive musical listening guide and this is where the *real* time-saving technique comes in:

1. using the control toolbar to play back your sound file, determine the exact frame number for the beginning of the *next* chorus of your musical example
2. select *all keyframes* of the first chorus by clicking on the first keyframe, holding the **SHIFT** key while you select the final keyframe of the first chorus
3. copy these frames by right-clicking (Win) or Control-clicking (Mac) anywhere within the range of selected cells and, from the pop-up menu, select "**Copy Frames**"
4. highlight the cell identified in step #1 above and right-click (Win) or Control-click (Mac) on it, then select "**Paste Frames**" from the pop-up menu that appears
5. listen carefully to the chorus using the control toolbox and move the keyframes (select, then click-and-drag) within this chorus, so that they are located exactly where you want them
6. return to step #1 above and repeat this process until you have reached the end of the song

You will notice that each keyframe on the "letters" layer has a frame label attached as well. This is an important component, since the letters on the stage – in addition to representing the musical form – act as buttons to initiate playback from location of the appropriate label, e.g., for the AABA template, clicking on the first "a" will initiate playback from "a1," clicking on the "b" will initiate playback from "b," etc. Therefore, it

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is imperative that these labels be attached to the keyframes to ensure the intended behavior is carried out.[1]

Final Steps

VERY IMPORTANT STEP: After you have completed the process of setting all of the keyframes for your interactive listening guide, make certain that the length of your "letters" layer is equal to the length of all other layers in your movie. Sometimes, when you copy-and-paste frames as you were instructed to do in the steps enumerated above, frames are added to that layer, causing the length of that particular layer to extend well beyond the end of the other layers. All you have to do to correct this is to scroll to the very end of the "letters" layer, hold the CONTROL key, and click-and-drag the final frame of the "letters" layer back to the same frame number as the final frame of all of the other layers.[2]

Customizing the Displayed Information (the easiest part!)
- simply double-click on the two text labels ("Song Title" and "Artist") and replace the text with the appropriate information for your selection.

Finally, you can determine the amount of compression applied to the digital audio file when you "publish" your interactive listening guide. In these templates, I have chosen what I consider to be appropriate settings (64 kbps, stereo, best quality), but you can easily change these settings to create higher quality sound (results larger SWF file size) or lower quality sound (smaller SWF files). To change these settings, simply …
- select File → Publish Settings…
- click on the "Flash" tab at the top of the window and click on the "Set" button next to "audio stream" near the bottom of the window
- change the values to your preferred settings:
  - Compression [I recommend "MP3"]
  - Preprocessing [I unchecked this box, so the sound file is stereo, but you can sometimes – not always – reduce your file size substantially, if you are willing to tolerate mono playback]
  - Bitrate [template default: "64 kbps"] – this is a *major* way to reduce the size of your online listening guide, though there is a very obvious tradeoff between file size and audio quality … the smaller the file size, the lower the quality.
    Use the following as a guide:
    - less than 64 kbps – low quality audio (the lower the bitrate, the lower the audio quality)
    - 64 kbps – FM radio quality

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[1] You will notice that each keyframe will have a label attached, so duplicate labels will appear in your movie (i.e., there will be an "a1" label for each chorus of the composition). Pressing one of the buttons on stage will consistently initiate playback beginning at the *initial* appearance of the frame label associated with the desired musical subsection.

[2] The importance of this step is difficult to overstate, since the value used to determine the appropriate location of the button on the scrollbar that moves during playback is determined by the total number of frames contained in the Flash movie.

- 128 kbps – "CD quality" (in my opinion, this description is debatable)
- 192 kbps or higher – transparent CD audio quality
  - Quality [template default: "Best"]

Publishing Your Listening Guide

Once you have completed the steps outlined above, make sure to save the final version of your movie. Finally, create the web-ready SWF version by selecting `File→Publish…` This will allow you to access your new interactive Listening Guide using the stand-alone Flash player on a local computer or to upload the SWF file to a server, allowing access via the web using an Internet browser with the Flash plug-in.

If you have problems or wish to make suggestions for a future version of this template, please contact Dr. Scott D. Lipscomb at: lipscomb@northwestern.edu.