Using Sound in Director

Playing sounds in the sound channels:
- Requires sound cast members to be imported into the Cast (fully imported or linked).
- Is limited to 2 channels.
- Must span the frames in which the sounds will play.
- Can use Tempo channel to control playback in relation to the sound channels.
- Will be overridden by Lingo control of sound.
- Can play looped sounds.

Using puppetSound:
- Requires sound cast members to be imported into the Cast (fully imported or linked).
- Will override a sound in the same Score sound channel.
- Can use up to 32 sound channels.
- Has more immediate response the playing an external sound with sound playFile.
- Can make use of preloading of sounds for quicker response.
- Can play looped sounds.
- Syntax:
  puppetSound [<chan>,] <soundMember>

  (Note that the sound channel number is optional, but generally recommended. If omitted, the sound plays in the lowest-numbered available channel.)

- Examples:
  puppetSound 1, "ding" -- plays the sound member "ding" in sound channel 1
  puppetSound 2, 47 -- plays the sound cast member #47 in sound channel 2
  -- (numeric member reference is NOT recommended)
  puppetSound "ding" -- plays the sound member "ding" in sound channel 1 by default
  -- (acceptable, but explicit sound channel reference is better)
  puppetSound 0 -- stops playback of puppeted sounds in all channels
  puppetSound 2, 0 -- stops playback of puppeted sound in sound channel 2 only
Playing external sound files with **sound PlayFile**:

- Does not require sounds to be imported as cast members.
- Will override a sound in the same Score sound channel.
- Can use up to 32 sound channels.
- Is more vulnerable to latency in playback compared with imported sounds.
- Cannot make use of preloading of sounds for quicker response.
- Cannot play looped sounds (i.e., looping will not be automatic - you can loop via Lingo)
- Requires accurate pathnames/URLs of sound files.

**Syntax:**

```lingo
sound playFile <chan>, <filename>
```

**Examples:**

```lingo
sound playFile 1, "mysound.aif" -- plays sound file “mysound.aif” in sound channel 1
sound playFile 8, "audio/mysound.aif" -- plays sound file “mysound.aif”, which resides -- in sub-directory “audio”, in sound channel 8.
```

**Other sound-controlling Lingo:**

```lingo
soundBusy (<chan>) -- returns TRUE (1) if a sound is now playing in the given channel, -- otherwise returns FALSE (0).
```

```lingo
sound stop <chan> -- immediately stops playback of sound playing in the given channel
```

```lingo
sound fadeIn <chan> [, <ticks>] sound fadeOut <chan> [, <ticks>] -- Fades sound in or out over time. When <ticks> is specified, -- the fade in/out occurs evenly over that period of time. -- When <ticks> is not specified, the default number of ticks is calculated -- as: 15 * (60 / (Tempo setting)), based on the Tempo setting for the -- first frame of the fade in/out.
```

Can be set or put:

```lingo
the volume of sound <chan> -- the volume of the sound in the given channel (0 to 255).
```

```lingo
the soundLevel (global) -- the global sound level for the entire movie (0 to 7).
```

Compare the options:

<table>
<thead>
<tr>
<th></th>
<th>Imported Cast</th>
<th>Max. Channels</th>
<th>Loops</th>
<th>Can Preload</th>
<th>Latency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>score sound channels</strong></td>
<td>Yes</td>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
<td>Lowest</td>
</tr>
<tr>
<td><strong>puppetsound</strong></td>
<td>Yes</td>
<td>32</td>
<td>Yes</td>
<td>Yes</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>sound playFile</strong></td>
<td>No</td>
<td>32</td>
<td>No*</td>
<td>No</td>
<td>Highest</td>
</tr>
</tbody>
</table>

*loops can be done with Lingo, but not automatically*