



# FilmSound.org

Learning Space dedicated to  
the Art and Analyses of Film Sound Design

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## Sound Design of Star Wars

compiled by [Sven E Carlsson](#)

*Sounddesigner Ben Burtt's responsibility on Star Wars was to create specifically unusual sounds - weapons, vehicles, character and key backgrounds.*



Ben Burtt creating a sound effect

Ben Burtt was a film sound buff as a child (he recorded and replayed the sound tracks of his favorite movies) Burtt enrolled at the university of Southern California's film school with the intention of becoming a director. He received a student job cataloguing the Columbia sound library, which had been donated to the University. A call by Star Wars producer Gary Kurtz to U.S.C. led to a successful interview for Burtt. He was given carte blanche to work out of his apartment near the U.S.C. campus in order to collect at a leisure pace those sounds that might be useful.

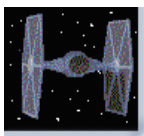
He spent a year recording anything that could be turned upside down and backwards to make Lucas world come alive.

"In my first discussion with George Lucas about the film, he - and I concurred with him - that he wanted an 'organic', as opposed to the electronic and artificial soundtrack. Since we were going to design a visual world that had rust and dents and dirt, we wanted a sound which had Squeaks and motors that may not be the smooth-sounding or quite. Therefor we wanted to draw upon raw material from the real world: real motors, real squeaky door, real insects; this sort of thing. The basic thing in all films is to create something that sounds believable to everyone, because it's composed of familiar things that you can not quite recognize immediately" (Ben Burtt in Film Sound Today)



### Imperial Walkers

The sound of the Imperial Walkers were created by modifying the sound of a machinist's punch press. Added to this for complexity, were the sounds of bicycle chains being dropped on concrete. [\[How to make new sounds\]](#)



### TIE fighter

- The screech of a TIE Fighter is a drastically altered elephant bellow.



### R2-D2

- 50 % of the droid's voice is generated electronically; the rest is a combination and blending of water pipes, whistles, and vocalizations by Burtt.

"R2-D2's motors covers every single move it does. They got buried most of the time, but when they do surface it helps keep a consistent texture that tells you that it really is a robot." (Ben Burtt in Film Sound Today)

## Chewbacca



● Wookiee sounds are constructed out of pieces of walruses and other animal sounds.

"You have bits and fragments of animal sounds which you have collected and put into lists: here is an affectionate sound and, here is a angry sound and, just like with R2-D2, they are clipped together and blended. With a Wookiee, you might end up with five or six tracks, sometimes, to get the flow of the sentence" (Ben Burtt in Film Sound Today)



## Laser blasts

● The sound of a hammer on an antenna tower guy wire ([Ben Burtt tapping the wires of a radio tower](#)) ([more](#))



## Lightsaber

● Burtt blended the sounds of his TV set and an old 35 mm projector to create the hum of a light saber. ([more](#))



## Speeder Bike

Sound of an Speeder Bike was achieved by mixing together the recorded sounds of a P-5 Mustang ariplane, a P-38 Lockheed Interceptor, and then record them



## Luke Skywalker's landspeeder

The whoosh of Luke Skywalker's landspeeder was achieved by recording the roar the Los Angeles Harbor Freeway through a vacuum-cleaner pipe.



## Ewokese language

● A language created by altering and layering Tibetan, Mongolian, and Nepali languages

. "I broke the sounds down phonetically, and red-edited them together to make composite words and sentences. I would always use a fair amount of the actual languages, combined with purely made-up words. With a new language, the most important goal is to create emotional clarity. People spend all of their lives learning to identify voices. You became an expert at that, and somewhat impossible to electronically process the human characteristic, and retain the necessary emotion. To fool the audience into believing this is a real character as the basis of the sound, although you may sprinkle other things in there. It varies from character to character." (Ben Burtt in Film Sound Today)

## Reality "hook" of a language.

The reality "hook" of a language comes not from a part of an existing language, but from a sprinkling of pidgin English here and there, as when Bibb Frotuna said "Bargon no wachonga" which of course means "There will be no bargain" ([How to make to make new sounds](#))

## The unique sound effects of Star Wars.

Burt has a keen ear for the compelling sounds, but what makes his works special is how his effects vault to a film's foreground. Normally, one only perceives a sound effect on a subconscious level. See a sound; hear a sound. Every time you see some action on the screen, your mind expects there to be a complimentary sound. Sounds that, will seem appropriate to that image and to its emotional context. But Burtt's skills go far beyond ordinary environmental stretching: his sounds often literally tell the story

and they bring pleasure in them selves.

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Sources: [Larry Blake: Film Sound Today](#), Marc Mancini: "Sound Designer" in [Film Sound - theory and practice](#) and [Sky Walker Sound](#)

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## Articles:

- [Ben Burtt - Sound Designer](#)  
Ben Burtt talks about Darth Vader and lightsaber sound
- [Dramatic emotional approach](#)  
If this sound-producing object really existed, what would it sound like?
- [Star Wars: a New Sound](#) The restoration of the Star Wars films
- [The story behind the creation of the lasergun sound](#)  
The story behind told by Ben Burtt's father
- [Ben Burtt answers questions about sound design of Star Wars](#)

**Radio Interview with Ben Burtt** (28.8 Real Audio)  
interviewed by John Papageorge, Silicon Valley Radio  
Ben Burtt: *"In Star Wars, I wanted to come up with a very massive rumble for a spaceship flying overhead .. I recorded the air conditioner in my motel room, slowed that sound down so it was even deeper and that became the rumble for the spaceships"*



Ben Burtt

## Episode 1 Articles

- [Foley in Phantom Menace](#)  
Interview with Foley and effects team
- [Foley Artistry: The ambient sound effects of Episode 1](#)
- [How do you create sounds for a fantastic universe?](#)  
Sound design of the The Phantom Menace
- [Matt Wood, Supervising Sound Editor, 'The Phantom Menace'](#)
- [The Sound Design of Star Wars Episode 1](#) Mirrowpage to starwars.com
- [Tom Johnson, Re-Recording Engineer, "Star Wars: Episode 1](#)
- [Mitchell, Julian: "The Phantom Menace"](#) (Audio Media UK, July 1999)

## Episode 2 Articles

- [Star Wars Episode II: Attack of the Clones](#)  
by Larry Blake ([Mix Magazine](#) June, 2002)
- [Attack of the Clones](#)  
Richard Clews reports on the monstrous audio project for the latest Star Wars film Attack of the

Clones (Audio Media nov 2002)

- [Interview with Ben Burtt](#), Editor and Sound Designer,'Star Wars: Episode II  
by Erin K. Lauten (Editors Net May 2002)

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## Sound Clips

- [Chris Foxwell's Star Wars Sound Clips](#)
- [Matt's Movie Sounds: Star Wars Trilogy](#)
- [Sound FX for a Star Wars Fan Film](#)  
Saber and star wars sounds with "How to retrieve sounds from Dark Forces II: Jedi Knight, and The Phantom Menace"

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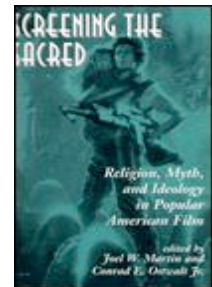
## Film Music Article

- [John Williams and "The Empire" Strike Back](#)  
by Kathryn Kalinak (from *Settling the Score: Music and the Classical Hollywood Film*, pp. 184-202, 229-230)

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## Recommended reading:

- **Star Wars: A Myth for Our Time** by Andrew Gordon in  
[Screening the Sacred: Religion, Myth, and Ideology in Popular American Film](#)



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## Recommended Film Sound Reading:

<b><a href="#">An Introduction to Film Sound</a></b>
Jane Knowles Marshall writes about Dialogue, Synchronous and Asynchronous Sound Effects, and Music
<b><a href="#">Sync Tanks: The Art and Technique of Postproduction sound</a></b>
by Elisabeth Weis
<b><a href="#">Designing a Movie for Sound</a></b>
Sound designer Randy Thom's Film Sound Manifesto

**Help me**

- correct the text (English is not my native tongue)
- expand this site by sending pictures and sounds

...and of course by sending more information about sound effects.

[Sven E Carlsson](#)

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to **FilmSound.org** <http://www.filmsound.org>

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Among the techniques of modifying and recording sounds to create new sounds are these:

- Speeding up and slowing down original sound to alter pitch and then recording at standard speed
- Running sounds through devices such as a harmonizer to digitally expand or compress without changing the pitch
- Using dip filters to boost or reduce certain frequency ands in sounds
- Using digital reverberation devices to create electronic sounds
- Using eletronic and computerized equipment to create synthetic sounds

Recombining and synthesizing - through editing and premixing several sounds - to produce the impression of a new sound

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**FilmSound.org** [www.filmsound.org](http://www.filmsound.org)

Oxford University: "...an excellent collection of resources and links.."

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