“Bob,” TV producer Mary Fukuto says. No reaction.
She’s trying to get the attention of the lean man seated at one end of the giant mixing board one tier below her, sound engineer Robert Douglass.
The problem is, the volume is too loud on the TV show being projected across the entire wall at the front of the room.
His eyes remain fixed on the screen, his ears tuned to the soundtrack playing through high-fidelity speakers, his fingers on a computer keyboard.
“Bob,” the producer tries again, and this time she gets through.
Looking back over his shoulder, Douglass acknowledges the summons without a hint of annoyance but without any words either, only raised eyebrows.
This routine has been going on for years between these two, who’ve collaborated in the past on Cheers, Frasier and other sitcoms and who both own Emmys for their behind-the-scenes TV work. This week they’re at Larson Studios, a postproduction sound company on Sunset Boulevard in Hollywood, putting the finishing touches on an episode of a show that airs on the CW Television Network.
In the scene up on the wall, a trio of young women, the show’s stars, are seated at a table in a crowded club. A rock band is playing loudly. One of the characters tells the others she is dating a minister, who has just come by to introduce himself. The others express surprise, knowing their friend’s history of sexual exploits.
“So, he’s a minister, and he can’t smell the sin on you?” one says.
The line gets a laugh from the studio audience, but Fukuto doesn’t like the way the laughter sounds, competing, as it is, with the noise from the band. She thinks it would sound better to viewers at home if they could hear more individuals laughing instead of one solid outburst.
Douglass nods and rewinds (an outdated verb in the digital era) the footage (an outdated noun). As the scene replays, he begins pressing keys on his computer.
“So he’s a minister, and he can’t smell the sin on you?”
“Hah-hah-hah-hah-hah.”

By Ed Cohen

Without the creative wizardry of Nevada alum Charlie Douglass, inventor of TV’s ‘Laff Box,’ the world would be a much more dreary place (insert laughter here).
The late Charlie Douglass ’33 (electrical engineering) loved nothing more than creating sound, particularly laughter. The television sound mixer would bring home tapes of radio and, later, television shows to his home, experimenting with applause and laughter. His creation, the Laff Box, revolutionized television. Note how the Laff Box even looks like it’s smiling.

Photo Courtesy of the Douglass Family
To a visitor witnessing this process for the first time the difference is far from obvious, but Fukuto nods her approval.

And on this postproduction audio-mixing process goes: Fukuto watching and listening and making the occasional request, Douglass watching and listening and simultaneously pressing combinations of buttons on his computer keyboard.

Only this is no ordinary computer.

The machine, which he’s brought with him to the studio, is the digital descendant of one of the most revolutionary and, in Douglass’ view, misunderstood technical innovations in television history: the so-called Laff Box. Developed in the early 1950s, it made the laugh track or “canned laughter” a familiar part of television comedy.

Douglass, who is 56, didn’t invent canned laughter. But his father, the late Charlie Douglass ’33 (electrical engineering), did.

### Laughter as a second job

“I didn’t think it would work,” says Dorothy Douglass, 88, seated next to Robert in the living room of her oceanfront home in Laguna Beach, south of Los Angeles. She’s thinking back to the early ’50s, when her husband began bringing home tapes of radio and later television shows recorded before live audiences. Charlie Douglass would work for hours trying to make tapes of laughs isolated from the dialogue that triggered them. He also experimented with applause, recording the sound of one, two, three people clapping.

“I would go to bed at night and through the vents I’d hear him editing laughs, the sound effects, applause,” Robert Douglass remembers.

“It became kind of irritating to me,” says Mrs. Douglass.

Her husband was working at the time for the infant CBS television network. Charlie Douglass had grown up in Tonopah in south-central Nevada, where his father worked as a mine engineer. After earning his engineering degree from Nevada, Charlie moved to Southern California, where he found work as a sound mixer on live radio broadcasts in Los Angeles. He met his future wife after the broadcast of a musical show. She was working for an ad agency that represented the show’s sponsor.

During World War II the young sound engineer joined the Navy. Instead of making him a radio operator, the military sent him to MIT and Bowdoin College for specialized training, and he eventually became part of the team that developed shipboard radar.

Returning to Los Angeles after the war, he went to work as a technical director for CBS, first in radio and then television.

Douglass noticed almost immediately that the producers of the early TV shows faced a significant problem: Whenever they did a second or third take of a scene — because of a technical glitch or if someone forgot a line — the audience wouldn’t laugh as hard because they’d already heard the joke. That muted reaction would seem odd when the show went out over the air, he knew.

Robert Douglass says his dad also knew intuitively that people enjoyed comedy more when they were in a crowd of people laughing. Laughter is contagious. So he set about trying to replicate the experience of being in an audience for people who would be watching the shows at home.

Many critics over the years have assumed that canned laughter was developed as a way of salvaging material that wasn’t funny enough to get real laughs, but Robert Douglass says that was never his dad’s intention.

“He always contended that it was for making the show technically better. It was because they couldn’t use laughter from the studio audience because of sound problems or because the laughter covered up dialogue.”

The solution was to dispense with the audience and insert recorded audience reaction instead, but there were technical problems to overcome. Physically splicing bursts of laughter into footage — the only way possible back then — took too much time for weekly television. Also, using the same outbursts over and over sounded fake.

Working at home, Douglass began editing down recordings to isolate laughs of varying duration and intensities. Slowly his mirth collection grew. But he still needed a way to add the snippets to the show’s soundtrack faster than cutting and splicing, which had the additional drawback of creating audible noises at the point of the edits.

It took the engineer more than two years to build his first Laff Box, which featured audio tape glued to motorized drums and a playback head that moved back and forth between drums. Robert Douglass says his father machined all of the internal parts himself at home. For control buttons, he used keys from a typewriter, eight of them.

The finished machine, which the inventor would modify countless times in future years, was so heavy that he had to invent a special climbing dolly to get it up the stairs at the studios, Robert Douglass says.

What made the Laff Box practical, if cumbersome, was that it could be played like a musical instrument. Instead of cutting and splicing tape, Charlie Douglass — and later his employees and son — could simply press buttons on the Laff Box while watching an episode playing and simultaneously record a custom laugh track.

The Laff Box delighted TV producers almost immediately. Not only did it solve the heard-it-once already problem in regard to jokes and retakes, but they no longer had to shanghai an audience into sitting through every taping.

### Canned heat

By 1954 Douglass had so many clients he’d quit his job at CBS and was working full time as Hollywood’s first “laugh man.”

Despite holding a monopoly on the process, he didn’t try to gouge his customers, Robert Douglass says. Rather, he elected to price the service in line with what a professional sound mixer would be paid for a similar amount of time. The early shows took four to five hours, and the Douglass family retains a receipt for an episode of one of the first TV series the senior Douglass worked on, *Pride of the Family*. The fee: $100.
Though the Laff Box was popular inside the production companies, it quickly attracted critics in other quarters. In a 1954 article in Variety, CBS announced that all of its shows were going to be required to use genuine audience reaction from then on. The article mentioned that the only two shows using canned laughter at the time, Life with Father and That's My Boy, had been canceled because the show's sponsors didn't want to be associated with fake laughter.

The article didn't mention that CBS had tried, and failed, to pry the Laff Box away from Charlie Douglass. The company said the device belonged to the network because Douglass invented it while working for CBS. Douglass successfully argued that he had created it on his own time.

Fortunately, the laugh-track backlash also proved short-lived.

“All it took was for a couple of shows to be big successes. Then, of course, all the sponsors were totally behind it,” Robert Douglass says. “At one time my dad had a list of the top-40 rated shows, and he was doing 20 of them.”

The demand for canned laughter soon became too great for one person to meet, and Douglass hired two assistants. Still the business grew. At the height of the sitcom boom in the late 1960s, the company Douglass formed, Northridge Electronics (named for the L.A. suburb in which the family lived), was providing laughs for 38 programs a week.

Canned laughter helped free producers and directors to film shows more like movies, on studio back lots and with multiple cameras. Separate takes could be done for individual characters with the footage edited together later, so the viewer would see one character speaking and then cut to another’s reactions. No audience would sit through the tedium of the various character takes. Another advantage was that, without an audience, shows could now include scenes shot outdoors.

When he went out on jobs, Charlie Douglass always kept a close watch on the Laff Box, his son says. The machine was padlocked shut, and when he or his employees had to change drums, they would excuse themselves to another room.

The device developed a mysterious, magical aura.

“People thought mice were in there or hamsters on wheels turning all these things,” Robert Douglass says.

Continues on page 40

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One time when his father was working on Bob Hope’s TV special, Robert Douglass says, the comedian came by and took his father’s hands in his own and begin rubbing them like he was trying to limber up the machine operator’s fingers.

“He said, ‘OK, now, give me some good laughs,’”

Although Charlie Douglass was known for his dry wit and friendly nature, he never appeared on TV himself, his son says. However, his name would sometimes crop up in scripts as an in-joke. In the movie Annie Hall, for instance, Woody Allen’s friend, played by Tony Roberts, is shown in a studio doing post-production work on a TV comedy. Roberts issues instructions on how he wants a particular laugh sequence to sound to an engineer he calls “Charlie.” Douglass was friends with Woody Allen from having worked on some of the comic’s TV specials, Robert Douglass says.

He was also friends with the producer of the family comedy My Three Sons. Fans of that series, which ran from 1960-72, may remember that the three senior characters during the last seven years of the show’s run were widowed father Steve Douglas; “Uncle” Charley (actually the brother of Steve’s father-in-law); and Steve’s eldest son, Robbie. The real-life Charlie Douglass (spelled with two S’s) had two sons: Robert, who is carrying on the family business, and Steven, who became a physician.

“Rumor has it that the characters were named for us, and I think it’s true,” says Robert Douglass.

Another of the company’s clients in the ‘60s was the show Laugh-In. The show was not filmed before a studio audience. Northridge provided both laughs and applause. Robert Douglass says the producers intended the program to end with extended applause over music, as other variety shows of the era ended. At the very end of the closing ovation, however, a button stuck on the Laff Box and what the producers heard over the final credits was the sound of a single person clapping. It was Charlie Douglass himself clapping under a microphone in his garage from a recording he’d made.

The Northridge operator apologized for the blunder, but the producers thought the sarcastic, single-person clapping was a scream and kept it in for the entire series run.

Laughter: the next generation

Robert Douglass would sometimes accompany his father out on jobs in the ‘60s, and he joined the family business full time in 1973 after graduating from the University of Arizona with a degree in mechanical engineering.

He says he inherited his father’s love of inventing and, as the era of the personal computer dawned in the ‘80s, he set about creating a digital successor to his dad’s pulleys-and-levers Laff Box. The early microprocessors, however, proved too slow to access and play sound clips quickly enough to create a laugh track. So the first computerized Laff Box wasn’t completed until 1990. The mammoth device included 11 hard drives and cost $500,000 to develop, says Robert Douglass.

The younger inventor says he collaborated on the machine with a sound mixer and computer programmer, Peter Roos, but relied on his father’s advice almost daily. Charlie Douglass’ University of Nevada experience also played a role, he says.

One of the final problems to be worked out with the machine was that when multiple keys were pressed, the volume would get too loud because the sounds were additive. The engineers realized a formula was needed to program the computer to automatically dampen the volume.

“We were sitting there doing software and I said, ‘How can we find this formula?’ And I said, ‘You know what, I have an idea.’ So I went to the bookcase. My father’s engineering books from the University of Nevada were there, the same books from 1925, ’28. I grabbed an engineering book, looked up the formula, and plugged it in. It worked perfectly.”

Nowadays, Robert Douglass totes a modified laptop computer to the studio when he’s called in to work on a show. The keyboard is programmed to play hundreds of different giggles and guffaws, hoots and hollers, ooh and ahhs, and various qualities of applause — and can be reprogrammed with hundreds more in seconds. He says it usually takes him one to two hours to add his material to a half-hour show.

Northridge Electronics now consists solely of Robert Douglass, and the company is no longer the only audience-reaction supplier in Hollywood. There are a handful of specialists who have a friendly relationship and routinely refer clients to one another when they’re too busy to take a job, Robert Douglass says.

That doesn’t happen as often as it used to, though. Reality TV has cut into the number of sitcoms.

Much else has changed since the advent of canned laughter, a term Charlie Douglass is said to have disliked. He preferred “audience augmentation” or “supplemental audio.” The current Hollywood lingo is “sweetening,” as in...
“We hired Bob Douglass to sweeten the show.”

One of the most noticeable changes in the sweetening business is that the process has become far more subtle, as the example from post-production on the CW series illustrates. Another is that hardly any comedies today rely entirely on artificial audience reaction. They’re filmed before live studio audiences, and the scenes that can’t be taped in front of an audience, like those shot outdoors, are played back afterward in front of the audience to record the reaction.

After more than 50 years, the idea of adding artificial reaction sounds to a show hasn’t completely shed its stigma, which is why Robert Douglass asked that the CW show he was working on not be mentioned by name in this article. But the TV industry has come around to recognizing the contributions of the laugh men.

Robert Douglass won his first Emmy in 1976 for his work on Cheers. He has since won 11 more, and not all of them for sitcoms. Four of the Emmys recognize supplemental audio he contributed, live, to Academy Awards shows. Another gig he’s done involves providing audience reaction for halftime shows at outdoor Super Bowls. The distance between the performers at midfield and the people in the stands makes conventional sound mixing impossible, he explains.

For most of Charlie Douglass’ career, the Academy of Television Arts & Sciences didn’t have a category to recognize the contributions of sound remixers like him. But in 1992 he was awarded a lifetime achievement Emmy for his invention of the laugh machine. The TV pioneer passed away in 2003 at age 93.

In 2006 he received a posthumous honor when the University of Nevada, Reno College of Engineering included him among the first nine winners of the college’s Scrugham Medal for outstanding alumni.

In a tribute on CNN, anchor Anderson Cooper eulogized Charlie Douglass as “the man who may have made more people laugh than any other human in history.” Not bad for an engineer who was only trying to solve technical difficulties.

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