

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

QUASAR SCIENCE LLC
Petitioner,

v.

COLT INTERNATIONAL CLOTHING, INC. d/b/a COLT LED
Patent Owner.

Case: IPR2023-00613 U.S.
Patent No. 10,566,895

**DECLARATION OF TODD CSERNECKY IN
SUPPORT OF PATENT OWNER'S RESPONSE**

**DECLARATION OF TODD CSERNECKY IN SUPPORT OF
PATENT OWNER'S RESPONSE**

I, Todd Csernecky, declare as follows:

1. I have worked in the entertainment industry since 1990 and specifically in lighting and the electrical field since end of 1995/beginning 1996. I have worked as both a “best boy” (also known as “assistant chief lighting technician”) handling electrical set up which includes electrical set up for lighting and as a “gaffer” (also known as “chief lighting technician”) which includes lighting set up. Gaffers and best boys work closely together. Gaffers normally make the decision as to what lights to use on set. Best boys often have some influence in that decision. Over the years I have continually talked about lighting with many friends and acquaintances who are also gaffers and best boys.

2. Attachment A is my IMDB web page which is essentially a CV and lists many of the TV shows and movies on which I have handled set lighting and electrical. These include working on TV shows such as “NCIS: Los Angeles” for twelve (12) years (a total of 279 episodes), Curb Your Enthusiasm, Glee, Cold Case, and Everybody Hates Chris for three (3) years (a total of 54 episodes). Most recently I worked on the set of the Netflix feature film “The Killer” as the assistant chief rigging technician. Recently I have also been working as “assistant chief rigging

technician” and “chief rigging technician” which include work similar or related to what gaffers and best boys do. I have also worked as gaffer or assistant chief lighting technician on well over one hundred music videos and commercials.

3. I have an undergraduate degree in TV and radio production from Ithaca College (1990), and three years towards a BS in optical and electrical engineering at the University of Alabama (Huntsville).

4. I have worked with the inventor, Guillermo (“Memo”) Macias, for several years, but I have no financial stake in any of his patents or applications, any lawsuits or other activities involving those patents, or the outcome of this proceeding. Around the time of his invention, I assisted him in measuring the performance of his prototype bicolor lighting device of the type shown in his U.S. Patent Numbers 10,411,582 and 10,566,895 (“the Two Patents”), which I have reviewed. The invention disclosed and claimed in these two patents is referred to herein as “Memo’s Bicolor LED Tube Invention.”

5. Prior to Memo’s Bicolor LED Tube Invention, fluorescent lighting tubes were the standard tube lights used in the TV and film set lighting industry for “key” lighting in situations where there is not much room to place the lighting between the set and the studio wall or other obstruction limiting the distance between the light source and the actors or where tube lighting was specified by the director of photography.

6. Key lighting is the main source of light in a video or photo. In the situation where there is limited distance between the key lighting and the set arises frequently on indoor, studio sets. Bigger, more powerful lighting sources must be placed further away from the set and the actors to give the light a chance to spread out. If placed close to the set the light will often be too harsh and/or too hot on the actors.

7. When lighting tubes are used I have often placed them in a “ladder” format, e.g., a dozen or two dozen tubes will be stacked vertically one over the other with a space, e.g., inches or a foot or so, between successive tubes. Set ups like this are shown below:



Ex. 2042, photos from www.Coltled.com/gallery/, printed/accessed December 18, 2023.

8. Each tube extends horizontally like the rungs of a ladder. Tubes are often four feet, two feet or eight feet long. Because TV and film sets extend much wider than the length of one “ladder” of lighting tubes, there are typically several ladders placed side by side on set. These ladders of lighting tubes form essentially a wall of light. Often there can be one hundred or more lighting tubes on a set.

9. Sometimes tubes are taped to a wall as shown below:

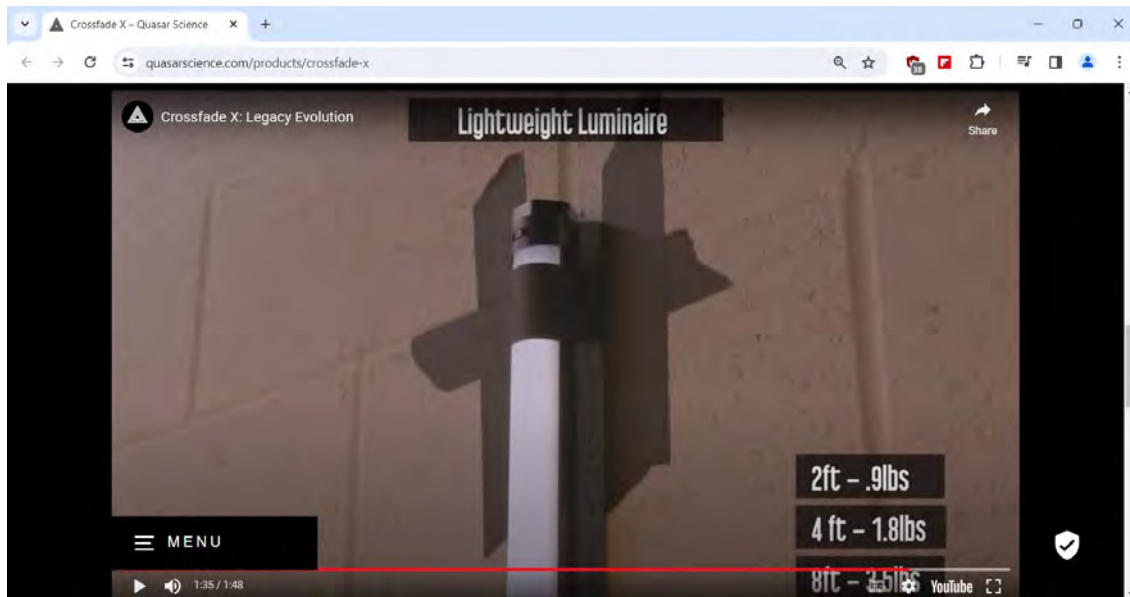


Exhibit 2043, from www.quasarscience.com/products/crossfade-x, video at time code 1:34, printed/accessed December 18, 2023. In this image, the lighting tube is shown in a vertical orientation, which I have seen often.

Sometimes tubes are stacked close together, about one to one and a half inches apart as shown below:

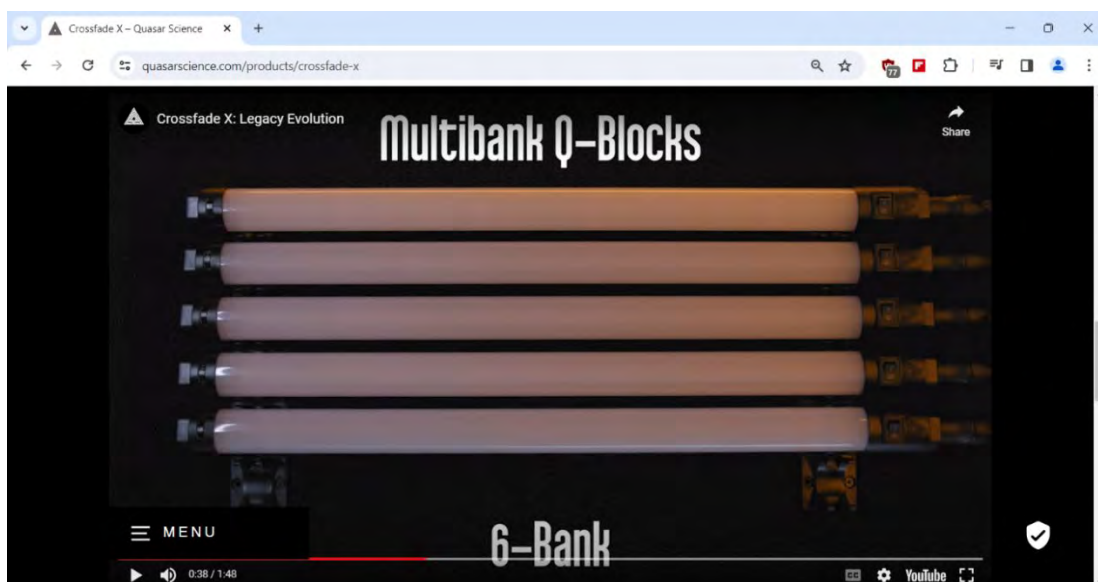


Exhibit 2044, from www.quasarscience.com/products/crossfade-x, video at time code 0:38, printed/accessed December 18, 2023.

10. From my personal experience, in lighting film and TV sets, when using tube lights, gaffers (myself included) look for a powerful light which would be a strong enough light output to be able to use the tubes as key lighting and adjust up or down as needed for changing scenes.

11. When Memo's Bicolor LED Tube came out in or about 2013 to 2014, existing tube lights in the entertainment industry were almost exclusively fluorescent. Fluorescent tubes had been the industry standard in situations calling for tube lighting since at least the time that I started working in the industry, at least by the early to mid-1990s. While there was LED lighting in nontubular form such as panel LED lights, those were rarely used as key light. They had a flat panel such as a one-foot square or larger, sometimes were made with no diffusion cover, and so were a series of point sources and/or harsh light. Often they had to be heavily diffused by adding gels, even when they had a diffusion cover.

12. The only LED lighting in tube form that was around at that time that I had seen and/or was aware of was made by MacTech LED in Studio City, California. MacTech LED, like Kino Flo, was a well-known lighting manufacturer in the set lighting industry. The MacTech LED lighting tube was only a single-color temperature, either daylight (cool) or tungsten (warm). It was not bicolor, even

though bicolor had existed for years in a panel light.

13. Among the critical aspects of lighting for the film and television set lighting industry are color reproduction accuracy (high CRI) and avoidance of spikes in any one color, including too much green and/or magenta hues. Keeping rigging time low, especially in between scenes, is also very important, hence, lighting systems that avoid the need for gels (to remove green and/or magenta hues and/or change or correct color temperature) are desirable as they can be set up and taken down in significantly less time than might otherwise be the case.

14. Memo's Bicolor LED Tube Invention (the claimed bicolor LED lighting tube shown and explained in the Two Patents) achieves these substantial and highly significant benefits of allowing change in color temperature from scene to scene from daylight to tungsten or *vice versa*, without having to do any changing of lights, without having to do any rigging and without having to add or remove any gels. More specifically, Memo's Bicolor LED Tube Invention embodied as Colt's Bicolor T12 Tubes include the following features:

- (a) LED tube lights in the form of a T12 or less fluorescent tube;
- (b) tungsten and daylight white lighting modes where the output of each is broad-spectrum white light;
- (c) switchable between the tungsten and daylight white lighting modes;
- (d) a diffusion cover so the light blends well and is not too harsh (too much

- like point sources) to be suitable for filming;
- (e) produce enough light output whether in tungsten or daylight mode suitable for use as key lighting (the main lighting for the set);
 - (f) have an acceptable threshold of green and magenta for filming (color deviation of less than five points of green and magenta, whether in daylight or tungsten mode) so that gels are not necessary in either mode; and
 - (g) have a suitable CRI for filming, i.e., greater than 90 whether in daylight or tungsten mode so that gels are not necessary.

15. For many years, fluorescent lighting tubes, and in particular Kino Flo fluorescent T12 tubes, were the industry standard and very commonly used in the set lighting field. In the past, i.e., prior to 2013-2014, almost every production that I was involved with and visited used Kino Flo fluorescent T12 tubes or other fluorescent T12 tubes as a light source, often in the four-foot size.

16. MacTech LED introduced its single-color temperature LED lighting tube in a T12 format. This took advantage of all of the myriad of existing equipment for housing tubular lights and the related accessories for that equipment. But, this MacTech LED lighting tube in my experience often had some issues and limitations. Most important was the MacTech LED lighting tube was not always a pure source, meaning it had color temperature deviations and excess green hues and it frequently had to be diffused with gels. In fact, LED tubes around 2013 had a reputation in the

industry of often having too much green or magenta hues, requiring time consuming use of gels. Mac Tech LED's marketing of its LED tube light focused heavily on energy efficiency. See, Ex. 2045. In my personal experience with the Mac Tech LED single color tube, it was undiffused (had a clear cover) and had too much green, therefore often necessitated use of gels and had issues with consistent light output. Consistent light output over the course of a shooting day and from day to day are critical in the TV and film industry to the quality of the movie or show, i.e., consistency of color temperature output, consistency of lumen output, consistency of green and magenta levels, and consistency of CRI. In addition to being very familiar with Colt's Bicolor T12 LED Tubes, I have also worked on productions where Quasar Science's bicolor T12 LED lighting tubes have been used.

17. I note that Quasar Science's bicolor T12 LED lighting tubes were released after Colt's Bicolor T12 LED Tubes and had the same features as listed in paragraph 14 above. As I always do with lighting on set when I am gaffer, I have measured the green/magenta deviation in Quasar's bicolor T12 LED lighting tubes for both the warm or tungsten setting and the cool or daylight setting several times over the years using my color meter. The green/magenta deviation at each setting has always been under 5 CC on the Kodak Wratten scale. In fact, to the best of my recollection I have always found the result to be within 3 CC plus or minus green/magenta deviation. The same has been true for Colt's Bicolor LED Tubes.

18. I have been on several productions over about the last ten years where Colt's Bicolor LED Tubes have been used and over the last seven or eight years bicolor LED lighting tubes made by Quasar Science LLC. More than half of all productions that I have worked on or seen over the past seven to eight years or so have used Colt's Bicolor T12 Tubes (or Quasar Science's bicolor T12 tubes having all the same above-listed features in paragraph 14). I have rarely seen any productions using fluorescent tube lights in the last three to four years. Over the last two to three years, almost every production that I have worked on has used one of Colt's or other (Quasar's) bicolor LED lighting tubes.

19. In my experience, Memo's Bicolor LED Tube Invention has become the go to standard for stage productions filming in daylight and tungsten and where T12 format light is appropriate.

20. There are many benefits to Colt's Bicolor T12 Tubes as noted above. The combination of a bicolor light (daylight and tungsten) having accurate color temperatures, T12 form factor, further accompanied by easy switching between the tungsten and daylight settings, along with industry goals 90+ CRI, broad-spectrum white light, green and magenta below the filter threshold of 5 points of green and magenta (the point at which gels are typically needed to avoid undesirable skin tones on film), and sufficient lumen output for key light with a diffusion cover, makes for a very desirable light. Gaffers want Colt's Bicolor LED Tube and Quasar's S-Switch

and Crossfade models for this combination of features.

21. If the light needed gels, that would defeat the purpose of saving material and labor that Memo's Bicolor LED Tube Invention save, as it would require obtaining gel materials and tediously putting the gels on the lights, and potentially having to use different gels for daylight and tungsten settings, which would mean substantial downtime from filming. Lack of broad spectrum white, CRI below 90 and/or light that looks like point sources would be highly undesirable except possibly in specific, unusual situations. Memo's Bicolor LED Tube Invention has significantly changed the filming industry in that it has eliminated any need for cumbersome switching out between tungsten and daylight lighting tubes.

22. Therefore, from my own experience as a gaffer and best boy and from my knowledge of the industry, what makes the Colt (and the later Quasar) bicolor LED tubes highly desirable is the combination of elements (a) to (g) of paragraph 14 above. (It should be noted that nowadays the industry sometimes talks about TLCI which is similar to CRI except it is how the camera would perceive the light.)

23. In addition to the sets that I have worked on, I have visited other sets and stages on the same lots, e.g., at Universal Studios and at Paramount Studios. At Universal Studios, I have seen a handful of sets using single color LED tube lights where it was my understanding that the production did not have the budget for bicolor LED tube lights.

24. Lighting tubes in the TV and film industry are often used under unfavorable conditions for the lights, such as where airflow is blocked or limited. For example, a very common situation where airflow is blocked or limited is where a gel and/or a black foil (to eliminate light spill or other reasons) is wrapped around all or part of a tube light. Tube lights sometimes are placed very close together, taped or positioned against a wall or ceiling or other object or in a corner. For example, on the set of NCIS LA, we used approximately one hundred of Colt's Bicolor LED Tubes in ladder format. There was limited space because we lit a translight (a backdrop) from about two feet (behind the backdrop with respect to the set) and then there was about another two or three feet to a wall. Moreover, often lighting tubes are kept on for as many as twelve hours (sometimes more), and in ladder-style format discussed above, and can get relatively hot.

25. Gels are often put on fluorescent tube lights and some LED tubes such as Mac Tech LED's tubes. To put gels on a tube light, e.g., a fluorescent tube or an LED tube light, one takes a roll of the gel material of comparable length to the tube light (e.g., a four-foot wide gel roll for a four foot long tube light). Then unroll some of the gel, put the tube on the gel and roll the tube up in the gel and tape it around the gel. The more green output from the lighting tube, the higher gel level that is needed to color correct the light output. Higher gel level is darker than lower gel levels. When removing green, a magenta gel is used. Higher gel levels can reduce

light output. Gaffers usually have several different rolls of gel on set in graduated amounts of color correction. Gels can also be used to correct for and/or modify the light output as desired, e.g., to diffuse the light more, to promote one color over others, and/or to change color temperature of the light output.

26. Putting a gel (or black wrap) around a tube light will cause the light to get hotter. While gels have their place in film and TV lighting (e.g., gelling one or two high wattage lights), drawbacks of gels lie with the time to apply and remove gels from large numbers of tubes on a set and/or to apply and remove them from tubes in awkward places (e.g., overhead).

27. Use of lighting tubes in boxes is also common. On American Auto we used about sixty of Quasar's bicolor LED tube lights in boxes overhead.

28. For several years Colt's Bicolor LED Tubes and Quasar's bicolor LED tube lights were often used in configurations where the lighting tubes were about one to one and a half inches apart. But to use the lights in traditional fluorescent housings as an LED retrofit would require a rewiring of the housing to bypass the ballast. This would take substantial time. Moreover, rewiring on location requires a licensed electrician or electricians and is quite cumbersome, particularly since often the rewired fixtures have to be put back into their original condition when filming is done. Accordingly, such rewiring can be unwieldy.

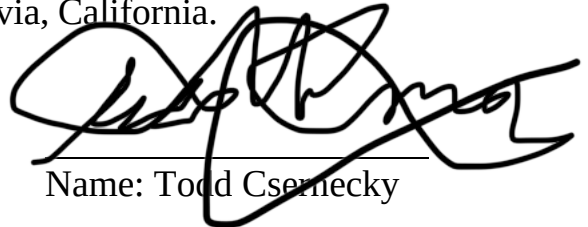
29. I hereby declare that all statements made herein of my own knowledge are

true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

30. In signing this Declaration, I understand that the Declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

31. I declare under penalty of perjury that the foregoing is true and correct.

Executed this 8th day of January, 2024 at Monrovia, California.

A handwritten signature in black ink, appearing to read 'Todd Csernecky', is written over a horizontal line. The signature is stylized with loops and flourishes.

Name: Todd Csernecky

ATTACHMENT A

Todd Csernecky

Credits (text only)

Edit

Share this page:

Camera and Electrical Department (38 credits)

Hide

The Killer (assistant chief lighting technician: rigging) 2023

- American Auto** (TV Series) (best boy rigging electric - 8 episodes, 2023) (rigging gaffer - 5 episodes, 2023)
- **Judgement Day** (2023) ... (rigging gaffer - uncredited)
 - **Dealer Event** (2023) ... (rigging gaffer - uncredited)
 - **Funeral** (2023) ... (rigging gaffer - uncredited)
 - **Passion Project** (2023) ... (rigging gaffer - uncredited)
 - **Night Out** (2023) ... (rigging gaffer - uncredited)
 - **Hack** (2023) ... (best boy rigging electric - uncredited)
 - **Young Designers** (2023) ... (best boy rigging electric - uncredited)
 - **The Letter** (2023) ... (best boy rigging electric - uncredited)
 - **Going Green** (2023) ... (best boy rigging electric - uncredited)
 - **Cost Cutting** (2023) ... (best boy rigging electric - uncredited)
 - **Celebrity** (2023) ... (best boy rigging electric - uncredited)
 - **Most Hated CEO** (2023) ... (best boy rigging electric - uncredited)
 - **Crisis** (2023) ... (best boy rigging electric - uncredited)

Gaslit (TV Mini Series) (rigging best boy electric - 8 episodes) 2022

- **Final Days** (2022) ... (rigging best boy electric)
- **Year of the Rat** (2022) ... (rigging best boy electric)
- **Tuffy** (2022) ... (rigging best boy electric)
- **Honeymoon** (2022) ... (rigging best boy electric)
- **Malum in se** (2022) ... (rigging best boy electric)
- **King George** (2022) ... (rigging best boy electric)
- **California** (2022) ... (rigging best boy electric)
- **Will** (2022) ... (rigging best boy electric)

NCIS: Los Angeles (TV Series) (best boy electric - 279 episodes) 2009-2021

- **A Tale of Two Igors** (2021) ... (best boy electric)
- **Through the Looking Glass** (2021) ... (best boy electric)
- **Signs of Change** (2021) ... (best boy electric)
- **Imposter Syndrome** (2021) ... (best boy electric)
- **The Noble Maidens** (2021) ... (best boy electric)
- **Red Rover, Red Rover** (2021) ... (best boy electric)
- **Can't Take My Eyes Off You** (2021) ... (best boy electric)
- **Russia, Russia, Russia** (2021) ... (best boy electric)
- **The Frogman's Daughter** (2021) ... (best boy electric)
- **A Fait Accompli** (2021) ... (best boy electric)
- **Love Kills** (2021) ... (best boy electric)
- **Overdue** (2021) ... (best boy electric)
- **If the Fates Allow** (2020) ... (best boy electric)
- **Raising the Dead** (2020) ... (best boy electric)
- **Cash Flow** (2020) ... (best boy electric)
- **Angry Karen** (2020) ... (best boy electric)
- **War Crimes** (2020) ... (best boy electric)
- **The Bear** (2020) ... (best boy electric - uncredited)
- **Code of Conduct** (2020) ... (best boy electric)
- **Murder of Crows** (2020) ... (best boy electric)
- **Knock Down** (2020) ... (best boy electric)
- **Fortune Favors the Brave** (2020) ... (best boy electric)
- **Missing Time** (2020) ... (best boy electric)
- **Watch Over Me** (2020) ... (best boy electric)
- **Alsiyadun** (2020) ... (best boy electric)
- **The Circle** (2020) ... (best boy electric)
- **Commitment Issues** (2020) ... (best boy electric)
- **High Society** (2020) ... (best boy electric)
- **Groundwork** (2020) ... (best boy electric)
- **Answers** (2019) ... (best boy electric)
- **Mother** (2019) ... (best boy electric)
- **Kill Beale: Vol. 1** (2019) ... (best boy electric)
- **Human Resources** (2019) ... (best boy electric)
- **Concours D'Elegance** (2019) ... (best boy electric)
- **A Bloody Brilliant Plan** (2019) ... (best boy electric)
- **Provenance** (2019) ... (best boy electric)
- **Yellow Jack** (2019) ... (best boy electric)
- **Hail Mary** (2019) ... (best boy electric)
- **Decoy** (2019) ... (best boy electric)
- **Let Fate Decide** (2019) ... (best boy electric)

- [False Flag](#) (2019) ... (best boy electric)
- [The Guardian](#) (2019) ... (best boy electric)
- [No More Secrets](#) (2019) ... (best boy electric)
- [The One That Got Away](#) (2019) ... (best boy electric)
- [Choke Point](#) (2019) ... (best boy electric)
- [Searching](#) (2019) ... (best boy electric)
- [Born To Run](#) (2019) ... (best boy electric)
- [Till Death Do Us Part](#) (2019) ... (best boy electric)
- [Into the Breach](#) (2019) ... (best boy electric)
- [Smokescreen, Part II](#) (2019) ... (best boy electric)
- [Smokescreen](#) (2019) ... (best boy electric)
- [Better Angels](#) (2019) ... (best boy electric)
- [The Sound of Silence](#) (2019) ... (best boy electric)
- [Joyride](#) (2018) ... (best boy electric)
- [Heist](#) (2018) ... (best boy electric)
- [A Diamond in the Rough](#) (2018) ... (best boy electric)
- [The Patton Project](#) (2018) ... (best boy electric)
- [One of Us](#) (2018) ... (best boy electric)
- [Asesinos](#) (2018) ... (best boy electric)
- [Pro Se](#) (2018) ... (best boy electric)
- [Hit List](#) (2018) ... (best boy electric)
- [The Prince](#) (2018) ... (best boy electric)
- [Superhuman](#) (2018) ... (best boy electric)
- [To Live and Die in Mexico](#) (2018) ... (best boy electric - uncredited)
- [Ninguna Salida](#) (2018) ... (best boy electric)
- [A Line in the Sand](#) (2018) ... (best boy electric)
- [Venganza](#) (2018) ... (best boy electric)
- [Where Everybody Knows Your Name](#) (2018) ... (best boy electric)
- [Reentry](#) (2018) ... (best boy electric)
- [Outside the Lines](#) (2018) ... (best boy electric)
- [Vendetta](#) (2018) ... (best boy electric)
- [The Monster](#) (2018) ... (best boy electric)
- [Warrior of Peace](#) (2018) ... (best boy electric)
- [Liabilities](#) (2018) ... (best boy electric)
- [Goodbye, Vietnam](#) (2018) ... (best boy electric - uncredited)
- [Các Tù Nhân](#) (2018) ... (best boy electric)
- [Under Pressure](#) (2018) ... (best boy electric)
- [All is Bright](#) (2017) ... (best boy electric)
- [Forasteira](#) (2017) ... (best boy electric)
- [Fool Me Twice](#) (2017) ... (best boy electric)
- [This Is What We Do](#) (2017) ... (best boy electric)
- [The Silo](#) (2017) ... (best boy electric)
- [Can I Get A Witness?](#) (2017) ... (best boy electric)
- [Mountebank](#) (2017) ... (best boy electric)
- [Plain Sight](#) (2017) ... (best boy electric)
- [Assets](#) (2017) ... (best boy electric)
- [Se Murio El Payaso](#) (2017) ... (best boy electric)
- [Party Crashers](#) (2017) ... (best boy electric)
- [Unleashed](#) (2017) ... (best boy electric)
- [Uncaged](#) (2017) ... (best boy electric)
- [Golden Days](#) (2017) ... (best boy electric)
- [Battle Scars](#) (2017) ... (best boy electric)
- [From Havana with Love](#) (2017) ... (best boy electric)
- [767](#) (2017) ... (best boy electric)
- [Getaway](#) (2017) ... (best boy electric)
- [Queen Pin](#) (2017) ... (best boy electric)
- [Old Tricks](#) (2017) ... (best boy electric)
- [Payback](#) (2017) ... (best boy electric)
- [Under Siege](#) (2017) ... (best boy electric)
- [Hot Water](#) (2017) ... (best boy electric - uncredited)
- [Kulinda](#) (2017) ... (best boy electric - uncredited)
- [Tidings We Bring](#) (2016) ... (best boy electric)
- [Sirens](#) (2016) ... (best boy electric)
- [Glasnost](#) (2016) ... (best boy electric)
- [Parallel Resistors](#) (2016) ... (best boy electric)
- [Crazy Train](#) (2016) ... (best boy electric)
- [Home Is Where the Heart Is](#) (2016) ... (best boy electric)
- [Ghost Gun](#) (2016) ... (best boy electric - uncredited)
- [Black Market](#) (2016) ... (best boy electric)
- [The Queen's Gambit](#) (2016) ... (best boy electric)
- [Belly of the Beast](#) (2016) ... (best boy electric)
- [High-Value Target](#) (2016) ... (best boy electric)
- [Talion](#) (2016) ... (best boy electric)
- [Where There's Smoke...](#) (2016) ... (best boy electric)
- [Granger, O.](#) (2016) ... (best boy electric)
- [Head of the Snake](#) (2016) ... (best boy electric)
- [Seoul Man](#) (2016) ... (best boy electric)
- [The Seventh Child](#) (2016) ... (best boy electric)
- [Exchange Rate](#) (2016) ... (best boy electric)
- [Revenge Deferred](#) (2016) ... (best boy electric)

- [Matryoshka, Part 2](#) (2016) ... (best boy electric)
- [Matryoshka](#) (2016) ... (best boy electric)
- [Come Back](#) (2016) ... (best boy electric)
- [Angels & Daemons](#) (2016) ... (best boy electric)
- [Core Values](#) (2016) ... (best boy electric)
- [Cancel Christmas](#) (2015) ... (best boy electric)
- [Internal Affairs](#) (2015) ... (best boy electric)
- [Defectors](#) (2015) ... (best boy electric)
- [The Long Goodbye](#) (2015) ... (best boy electric)
- [An Unlocked Mind](#) (2015) ... (best boy electric)
- [Unspoken](#) (2015) ... (best boy electric)
- [Blame It on Rio](#) (2015) ... (best boy electric)
- [Command & Control](#) (2015) ... (best boy electric)
- [Driving Miss Diaz](#) (2015) ... (best boy electric)
- [Citadel](#) (2015) ... (best boy electric)
- [Active Measures](#) (2015) ... (best boy electric)
- [Chernoff, K.](#) (2015) ... (best boy electric)
- [Kolcheck, A.](#) (2015) ... (best boy electric)
- [Field of Fire](#) (2015) ... (best boy electric)
- [Beacon](#) (2015) ... (best boy electric)
- [Rage](#) (2015) ... (best boy electric)
- [Blaze of Glory](#) (2015) ... (best boy electric)
- [Fighting Shadows](#) (2015) ... (best boy electric)
- [Savoir Faire](#) (2015) ... (best boy electric)
- [Expiration Date](#) (2015) ... (best boy electric)
- [Forest for the Trees](#) (2015) ... (best boy electric)
- [Black Wind](#) (2015) ... (best boy electric)
- [In the Line of Duty](#) (2015) ... (best boy electric)
- [Spiral](#) (2015) ... (best boy electric)
- [Humbug](#) (2014) ... (best boy electric)
- [Reign Fall](#) (2014) ... (best boy electric)
- [Traitor](#) (2014) ... (best boy electric)
- [The Grey Man](#) (2014) ... (best boy electric)
- [Leipei](#) (2014) ... (best boy electric)
- [SEAL Hunter](#) (2014) ... (best boy electric)
- [Black Budget](#) (2014) ... (best boy electric)
- [The 3rd Choir](#) (2014) ... (best boy electric)
- [Praesidium](#) (2014) ... (best boy electric)
- [Inelegant Heart](#) (2014) ... (best boy electric)
- [Deep Trouble, Part 2](#) (2014) ... (best boy electric)
- [Deep Trouble, Part 1](#) (2014) ... (best boy electric)
- [Exposure](#) (2014) ... (best boy electric)
- [One More Chance](#) (2014) ... (best boy electric)
- [Three Hearts](#) (2014) ... (best boy electric)
- [Windfall](#) (2014) ... (best boy electric)
- [Spoils of War](#) (2014) ... (best boy electric)
- [Zero Days](#) (2014) ... (best boy electric)
- [Between the Lines](#) (2014) ... (best boy electric)
- [Fish Out of Water](#) (2014) ... (best boy electric - uncredited)
- [Tuhon](#) (2014) ... (best boy electric - uncredited)
- [War Cries](#) (2014) ... (best boy electric - uncredited)
- [Allegiance](#) (2014) ... (best boy electric - uncredited)
- [Merry Evasion](#) (2013) ... (best boy electric)
- [Iron Curtain Rising](#) (2013) ... (best boy electric - uncredited)
- [The Frozen Lake](#) (2013) ... (best boy electric - uncredited)
- [Recovery](#) (2013) ... (best boy electric - uncredited)
- [Fallout](#) (2013) ... (best boy electric - uncredited)
- [The Livelong Day](#) (2013) ... (best boy electric)
- [Big Brother](#) (2013) ... (best boy electric)
- [Unwritten Rule](#) (2013) ... (best boy electric)
- [Reznikov, N.](#) (2013) ... (best boy electric)
- [Omni](#) (2013) ... (best boy electric - uncredited)
- [Impact](#) (2013) ... (best boy electric - uncredited)
- [Ascension](#) (2013) ... (best boy electric - uncredited)
- [Descent](#) (2013) ... (best boy electric)
- [Parley](#) (2013) ... (best boy electric)
- [Raven & the Swans](#) (2013) ... (best boy electric)
- [Resurrection](#) (2013) ... (best boy electric)
- [Purity](#) (2013) ... (best boy electric)
- [Red 2](#) (2013) ... (best boy electric)
- [Red](#) (2013) ... (best boy electric)
- [Wanted](#) (2013) ... (best boy electric)
- [Lokhay](#) (2013) ... (best boy electric)
- [History](#) (2013) ... (best boy electric)
- [Kill House](#) (2013) ... (best boy electric)
- [The Chosen One](#) (2013) ... (best boy electric)
- [Paper Soldiers](#) (2013) ... (best boy electric)
- [Drive](#) (2013) ... (best boy electric)
- [Free Ride](#) (2012) ... (best boy electric)
- [The Gold Standard](#) (2012) ... (best boy electric)

- [Collateral](#) (2012) ... (best boy electric)
- [Skin Deep](#) (2012) ... (best boy electric)
- [Rude Awakenings](#) (2012) ... (best boy electric)
- [Out of the Past](#) (2012) ... (best boy electric - uncredited)
- [Dead Body Politic](#) (2012) ... (best boy electric)
- [The Fifth Man](#) (2012) ... (best boy electric - uncredited)
- [Recruit](#) (2012) ... (best boy electric)
- [Endgame](#) (2012) ... (best boy electric - uncredited)
- [Sans Voir, Part 1](#) (2012) ... (best boy electric)
- [Sans Voir, Part 2](#) (2012) ... (best boy electric)
- [Neighborhood Watch](#) (2012) ... (best boy electric)
- [Touch of Death](#) (2012) ... (best boy electric)
- [Patriot Acts](#) (2012) ... (best boy electric)
- [Vengeance](#) (2012) ... (best boy electric)
- [The Dragon and the Fairy](#) (2012) ... (best boy electric)
- [Blye, K., Part 2](#) (2012) ... (best boy electric)
- [Blye, K., Part 1](#) (2012) ... (best boy electric)
- [Crimeleon](#) (2012) ... (best boy electric)
- [Partners](#) (2012) ... (best boy electric)
- [Exit Strategy](#) (2012) ... (best boy electric)
- [The Watchers](#) (2012) ... (best boy electric)
- [Higher Power](#) (2011) ... (best boy electric)
- [The Debt](#) (2011) ... (best boy electric)
- [Betrayal](#) (2011) ... (best boy electric)
- [Greed](#) (2011) ... (best boy electric)
- [Honor](#) (2011) ... (best boy electric)
- [Lone Wolf](#) (2011) ... (best boy electric)
- [Sacrifice](#) (2011) ... (best boy electric)
- [Deadline](#) (2011) ... (best boy electric)
- [Backstopped](#) (2011) ... (best boy electric)
- [Cyber Threat](#) (2011) ... (best boy electric)
- [Lange, H.](#) (2011) ... (best boy electric)
- [Familia](#) (2011) ... (best boy electric)
- [Imposters](#) (2011) ... (best boy electric)
- [Plan B](#) (2011) ... (best boy electric)
- [Rocket Man](#) (2011) ... (best boy electric)
- [The Job](#) (2011) ... (best boy electric)
- [Enemy Within](#) (2011) ... (best boy electric)
- [Harm's Way](#) (2011) ... (best boy electric)
- [Personal](#) (2011) ... (best boy electric)
- [Empty Quiver](#) (2011) ... (best boy electric)
- [Tin Soldiers](#) (2011) ... (best boy electric)
- [Lockup](#) (2011) ... (best boy electric)
- [Archangel](#) (2011) ... (best boy electric)
- [Overwatch](#) (2011) ... (best boy electric)
- [Disorder](#) (2010) ... (best boy electric)
- [Deliverance](#) (2010) ... (best boy electric)
- [Absolution](#) (2010) ... (best boy electric)
- [Bounty](#) (2010) ... (best boy electric)
- [Anonymouse](#) (2010) ... (best boy electric)
- [Stand-off](#) (2010) ... (best boy electric)
- [Little Angels](#) (2010) ... (best boy electric)
- [Special Delivery](#) (2010) ... (best boy electric)
- [Borderline](#) (2010) ... (best boy electric)
- [Black Widow](#) (2010) ... (best boy electric)
- [Human Traffic](#) (2010) ... (best boy electric)
- [Callen, G](#) (2010) ... (best boy electric - uncredited)
- [Burned](#) (2010) ... (best boy electric - uncredited)
- [Hunted](#) (2010) ... (best boy electric - uncredited)
- [Found](#) (2010) ... (best boy electric - uncredited)
- [Fame](#) (2010) ... (best boy electric - uncredited)
- [Hand-to-Hand](#) (2010) ... (best boy electric - uncredited)
- [Blood Brothers](#) (2010) ... (best boy electric - uncredited)
- [Full Throttle](#) (2010) ... (best boy electric - uncredited)
- [Chinatown](#) (2010) ... (best boy electric - uncredited)
- [The Bank Job](#) (2010) ... (best boy electric - uncredited)
- [LD50](#) (2010) ... (best boy electric - uncredited)
- [Missing](#) (2010) ... (best boy electric - uncredited)
- [Past Lives](#) (2010) ... (best boy electric - uncredited)
- [Breach](#) (2010) ... (best boy electric - uncredited)
- [Brimstone](#) (2009) ... (best boy electric - uncredited)
- [Random on Purpose](#) (2009) ... (best boy electric - uncredited)
- [Ambush](#) (2009) ... (best boy electric - uncredited)
- [Pushback](#) (2009) ... (best boy electric - uncredited)
- [Keepin' It Real](#) (2009) ... (best boy electric - uncredited)
- [Killshot](#) (2009) ... (best boy electric - uncredited)
- [Search and Destroy](#) (2009) ... (best boy electric)
- [Predator](#) (2009) ... (best boy electric)
- [The Only Easy Day](#) (2009) ... (best boy electric)

Curb Your Enthusiasm (TV Series) (best boy electric - 2 episodes) - Fatwa! (2017) ... (best boy electric) - The Shucker (2017) ... (best boy electric)	2017
The Purge: Anarchy (best boy electric: second unit)	2014
Takers (best boy electric: second unit)	2010
Glee (TV Series) (best boy electric - 12 episodes) - Sectionals (2009) ... (best boy electric - uncredited) - Mattress (2009) ... (best boy electric - uncredited) - Hairography (2009) ... (best boy electric) - Ballad (2009) ... (best boy electric) - Wheels (2009) ... (best boy electric) - Mash-Up (2009) ... (best boy electric) - Throwdown (2009) ... (best boy electric) - Vitamin D (2009) ... (best boy electric) - The Rhodes Not Taken (2009) ... (best boy electric) - Preggers (2009) ... (best boy electric) - Acafellas (2009) ... (best boy electric) - Showmance (2009) ... (best boy electric)	2009
Dance Flick (best boy electric: studio segments)	2009
Cold Case (TV Series) (electrician - 11 episodes) - Libertyville (2009) ... (electrician) - Mind Games (2009) ... (electrician) - Officer Down (2009) ... (electrician) - Jackals (2009) ... (electrician) - Witness Protection (2009) ... (electrician) - The Brush Man (2009) ... (electrician) - Breaking News (2009) ... (electrician) - Lotto Fever (2009) ... (electrician) - Wings (2008) ... (electrician) - Street Money (2008) ... (electrician) - Pin Up Girl (2008) ... (electrician)	2008-2009
Everybody Hates Chris (TV Series) (best boy electric - 54 episodes) - Everybody Hates Mr. Levine (2009) ... (best boy electric) - Everybody Hates James (2008) ... (best boy electric) - Everybody Hates Big Bird (2008) ... (best boy electric) - Everybody Hates Snitches (2008) ... (best boy electric) - Everybody Hates Doc's (2008) ... (best boy electric) - Everybody Hates My Man (2008) ... (best boy electric) - Everybody Hates the English Teacher (2008) ... (best boy electric) - Everybody Hates Homecoming (2008) ... (best boy electric) - Everybody Hates Cake (2008) ... (best boy electric) - Everybody Hates Tattaglia (2008) ... (best boy electric) - Everybody Hates Graduation (2008) ... (best boy electric) - Everybody Hates Mother's Day (2008) ... (best boy electric) - Everybody Hates the Ninth-Grade Dance (2008) ... (best boy electric) - Everybody Hates Being Cool (2008) ... (best boy electric) - Everybody Hates Earth Day (2008) ... (best boy electric) - Everybody Hates Ex-Cons (2008) ... (best boy electric) - Everybody Hates the BFD (2008) ... (best boy electric) - Everybody Hates Gretzky (2008) ... (best boy electric) - Everybody Hates Easter (2008) ... (best boy electric) - Everybody Hates the First Kiss (2008) ... (best boy electric) - Everybody Hates Bad Boys (2008) ... (best boy electric) - Everybody Hates the Port Authority (2008) ... (best boy electric) - Everybody Hates Kwanzaa (2007) ... (best boy electric) - Everybody Hates the New Kid (2007) ... (best boy electric) - Everybody Hates Minimum Wage (2007) ... (best boy electric) - Everybody Hates Houseguests (2007) ... (best boy electric) - Everybody Hates Bed-Stuy (2007) ... (best boy electric) - Everybody Hates the Bachelor Pad (2007) ... (best boy electric) - Everybody Hates Blackie (2007) ... (best boy electric) - Everybody Hates Driving (2007) ... (best boy electric) - Everybody Hates Caruso (2007) ... (best boy electric) - Everybody Hates the Guidance Counselor (2007) ... (best boy electric) - Everybody Hates the Last Day (2007) ... (best boy electric) - Everybody Hates Math (2007) ... (best boy electric) - Everybody Hates Dirty Jokes (2007) ... (best boy electric) - Everybody Hates Gambling (2007) ... (best boy electric) - Everybody Hates Baseball (2007) ... (best boy electric) - Everybody Hates DJs (2007) ... (best boy electric) - Everybody Hates Chain Snatching (2007) ... (best boy electric) - Everybody Hates Cutting School (2007) ... (best boy electric) - Everybody Hates the Substitute (2007) ... (best boy electric) - Everybody Hates Snow Day (2007) ... (best boy electric) - Everybody Hates Hall Monitors (2007) ... (best boy electric)	2006-2009

- Everybody Hates Eggs (2007) ... (best boy electric)	
- Everybody Hates Kris (2006) ... (best boy electric)	
- Everybody Hates Superstition (2006) ... (best boy electric)	
- Everybody Hates Thanksgiving (2006) ... (best boy electric)	
- Everybody Hates Promises (2006) ... (best boy electric)	
- Everybody Hates the Buddy System (2006) ... (best boy electric)	
- Everybody Hates Malvo (2006) ... (best boy electric)	
- Everybody Hates a Liar (2006) ... (best boy electric)	
- Everybody Hates Elections (2006) ... (best boy electric)	
- Everybody Hates the Class President (2006) ... (best boy electric)	
- Everybody Hates Rejection (2006) ... (best boy electric)	
My Own Worst Enemy (TV Series) (electrician - 5 episodes)	2008
- Henry and the Terrible... Day (2008) ... (electrician)	
- High Crimes and Turducken (2008) ... (electrician)	
- The Night Train to Moscow (2008) ... (electrician)	
- Hello, Henry (2008) ... (electrician)	
- The Hummingbird (2008) ... (electrician)	
Iconoclasts (TV Series documentary) (gaffer - 4 episodes)	2008
- Cameron Diaz and Cameron Sinclair (2008) ... (gaffer)	
- Venus Williams and Wyclef Jean (2008) ... (gaffer)	
- Bill Maher and Clive Davis (2008) ... (gaffer)	
- Tony Hawk and John Favreau (2008) ... (gaffer)	
Eleventh Hour (TV Series) (best boy electric - 1 episode)	2008
- Resurrection (2008) ... (best boy electric)	
American Swing (Documentary) (gaffer: Los Angeles)	2008
Making Trouble (Documentary) (gaffer)	2007
Company Town (TV Short) (best boy electric)	2006
Courting Alex (TV Series) (electrician - 12 episodes)	2006
- A Moving Story (2006) ... (electrician)	
- Alex Looks Out for Steven (2006) ... (electrician)	
- You Compete Me (2006) ... (electrician)	
- The Perfect Couple (2006) ... (electrician)	
- Big Client (2006) ... (electrician)	
- The Mattress (2006) ... (electrician)	
- Birthday (2006) ... (electrician)	
- The Fix-Up (2006) ... (electrician)	
- New Best Friend (2006) ... (electrician)	
- Girlfriend (2006) ... (electrician)	
- Is She Really Going Out with Him? (2006) ... (electrician)	
- A Tale of Two Kisses (2006) ... (electrician)	
Little Man (electrician - uncredited)	2006/III
Campus Ladies (TV Series) (electrician - 5 episodes)	2006
- Fraternity Row (2006) ... (electrician)	
- Drama Class (2006) ... (electrician)	
- Safety Bathroom (2006) ... (electrician)	
- My First Orgasm (2006) ... (electrician)	
- No Means No (2006) ... (electrician)	
Fun with Dick and Jane (electrician - uncredited)	2005
House of the Dead 2 (TV Movie) (gaffer: second unit)	2005
Art in the Twenty-First Century (TV Series documentary) (gaffer - 1 episode)	2005
- Memory (2005) ... (gaffer)	
American Gun (electrician)	2005
Back to Norm (TV Movie) (electrician)	2005
Hard Candy (electrician)	2005
Street of Pain (Short) (best boy electric)	2003
Passengers (Short) (gaffer)	2002
Dead Dog (best boy electric)	2001
Amnesia (Short) (gaffer)	2000
Girlfight (best boy electric)	2000
Sunburn (best boy electric)	1999
Black & White (rigging gaffer)	1999/I
Row Your Boat (best boy electric)	1999
On the Run (best boy electric)	1999

Bus to Queens (Short) (best boy electric)	1998
Upright Citizens Brigade (TV Series) (electrician - 2 episodes) - Saigon Suicide Show (1998) ... (electrician) - Poo Stick (1998) ... (electrician)	1998
Side Streets (electrician)	1998
Sound department (1 credit) Hide ▲	
Fly by Night (sound assistant)	1992

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