



Jeff Kreines' Kinetta scan of Walter Buch introducing the Aurion Pro 1200

material beginnings

Historically the Auricon reaches back to the 1930s with Eric Berndt, a mechanical engineer in the patent office of RCA Photophone, a variable area sound system that recorded optical sound on film. In 1932 Berndt and another RCA sound technician John M. Maurer founded the Berndt-Maurer Corp. A year later, Berndt developed the first 16mm sound camera. By 1939 another engineer, Walter Bach joined Berndt-Maurer and the firm relocated to Los Angeles.

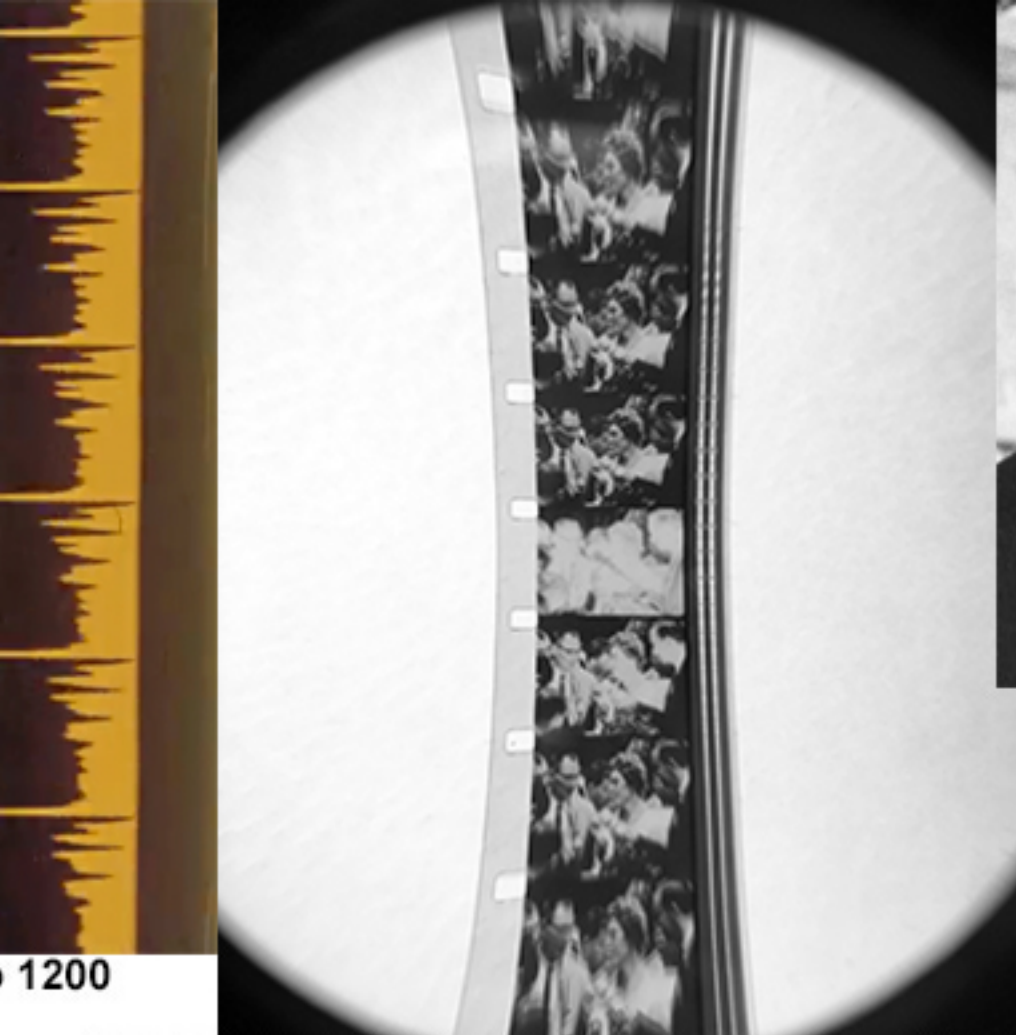
In the 1940's Maurer was out and the company became Berndt-Bach, Inc. and here the Auricon (in name) begins. The company produced a series of cameras for industrial and military use. Later the Cine-Voice line was developed to tap into the home movie market. For a company run by engineers, design strength was in the patents they controlled. But it was the professional users who drove the product development through their modified use of the cameras, responding to the Cine-Voice's compact functionality.

The company released the Filmagnetic in 1955, a variation in single-system that recorded audio to magnetically striped film stock, but television news cameramen turned to the Auricon: the company released the Pro-600, but cameramen preferred the utility of Cine-Voice, "chopping" the top to accept larger magazines and a cottage industry was born. The Pro-600 Special and the Super 1200 were introduced, but they were more suited for studio interviews and lacked portability. The company tried to adopt its cameras for kinescope use, but it was undone by the NTSC 29.97 standard.

Berndt resigned in 1960 and the company continued as Bach Auricon. Expiring patents spelled the end of Auricon and competitor Cinema-Products started manufacturing lighter cameras based on Auricon film movements. Soon video would completely overtake the role of 16mm in news television.

Unique Qualities

The Auricon cameras had some singular distinctions. Optical sound and picture, though synchronous in playback, are delayed as the optical reader and projector prism are in different locations (the cameras used a mirrored galvanometer, which allowed sound to be recorded on the film through a beam of light that varied in accordance with the frequency and intensity of the sound recorded, a design that originated with RCA). The Cine-Voice manual notes that "the soundtrack is recorded (and reproduced by the projector) 26 frames ahead of the corresponding picture," and suggests "bloop" edits to cover audio cuts. The cameras were non-reflexive, meaning the viewfinder did not use a reflex mirror to allow the camera operator to see through the lens, but in parallax. The larger models like the Super 1200 had a rear viewer that allowed ground glass focusing through the taking lens on the front turret; otherwise it was equipped with a side mounted parallax viewfinder. The Cine-Voice camera was either directly powered by electric cable, or ran with a portable power supply unit "in an attractive carrying case" for the Cine-Voice. Recording of sound was modulated through an external amplifier that was battery powered. There were two inputs: a 50 ohm Microphone Input, and a Hi-Impedance Phono Input, whereby one could connect a photograph record player for music playback via a pickup with volume control.



Happy Mother's Day (1963, Joyce Chopra, Richard Leacock)



Ricky Leacock in the 1960s. Ricky would steady his shots by grabbing the magazine of the 16mm Auricon camera.

The amplifier had four settings: tone (essentially frequency) control settings: *Speech with Music, Speech Only, Singing with Music* and *Music Only*.

the intersection of news & direct cinema

The sound-on-film cameras of Berndt-Maurer and later Bach Auricon were squarely directed at the industrial market, but were a perfect fit for the military in World War II. This would remain a constant, as niche markets would drive the success of the cameras more than the company itself. The burgeoning television news industry needed actively mobile cameramen, a need that played into the hand of the Auricon more than industrial-publicity films that sought more editorial control and refinement than a single system could provide. The Auricon was the camera-
phone of its day by capturing reality by simultaneously recording picture and sound.

"The direct cinema documentarist took his camera to a situation of tension and waited hopefully for a crisis; the Jean Rouch version of cinema verite tried to precipitate one. The direct cinema artist aspired to invisibility; the Rouch cinema verite artist was often an avowed participant. The direct cinema artist played the role of uninvolved bystander; the cinema verite artist espoused that of provocateur." (3)

Documentary filmmakers picked up on this: the Auricon was quite literally a tool they sought to forge, tinker and modify as an extension of their own filmmaking body. Richard Leacock felt increasingly burdened by camera rigs that were immobile and slowed by crews. When the opportunity to shoot *Primary* (1960) came about, D.A. Pennebaker and Leacock consulted with Auricon's John Maurer who helped them modify a Cine-Voice. As Albert Maysles later recalled, "suddenly the camera became a servant to reality rather than a device used to manipulate it. Scenes filmed as they evolved could be as dramatic as in a preconceived film, but more compelling and engaging. Things that pass as totally credible in a documentary, because they are real, would seem all too implausible in a concocted, scripted feature film." (1)

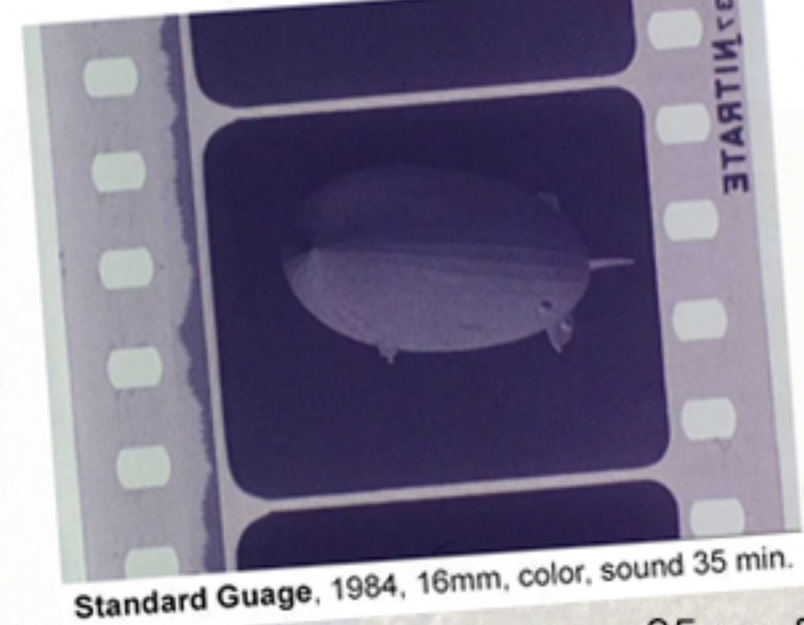
As a single-system recording device, the Auricon provided a democracy of equality between sound and image that made it unique in the history of film cameras. This opens a door to serendipity: chance, shock and delight in the unexpected. Though the direct cinema movement was ultimately forwarded by new technology, it was such a departure from the established documentary technique that its associated rhetoric (handheld camera, shot with natural light, without formal interviews, commentary, and non-diegetic sound) has remained a benchmark of documentary authenticity.



Finding a "CINE-VOICE":

16mm Sound-On-Film Recording Camera material realism and the auricon

experimental cinema



Standard Gauge, 1984, 16mm, color, sound 35 min.

materiality & the archive

Where does the Auricon sit today within the archive? Within film history the cameras remain a side note, an anomaly, a good story. Clearly original film stock needs to be properly identified and Auricon-shot material could be mistaken as generational removed by the presence of an optical track. This speaks more to the broader issue of technology recognition precisely within the signatures, the marks machines leave behind that cannot be lost if we aspire to approach film restoration work inspired by the intention of a film's original exhibition. As advances in technology and practice leave workflows to decay in the dusty recesses of memory, we risk losing the connection with the essential aesthetic intentions of the work. This is already a problem inherent in the multiplicity of reception digital imagery brings – it's even risky, if not simply dangerous, in the context of born digital files. Without the ability to transcribe codecs, you've not only lost the key, you've rendered the media immaterial. The volatility of nitrate carries only the difference of a fiery spectacle over the loss of data: indeed, digital can't wait.

Models such as the TECHNÉS partnership as co-directed by André Gaudreault, Gilles Mouëllic and Benoit Turquety, are essential for film preservationists to follow and intentionally mirror in their own practice. Likewise, there are many research partnerships today focused on the side of digital restoration, while still holding onto media roots in the historical photochemical or magnetic media processes. The more familiar we are with the past tools of image making, the better equipped we are to bring the cinema of the past into new and developing exhibition and access spaces. New technology doesn't antiquate the past if we The advent of sound on film for years relegated silent cinema passé so completely until the once cinema of attractions was tarnished by a démodé mythology. Thankfully we are able to parse the intent, and interpret the sublime sophistication of early and primitive cinema, through the diligent attention and practices of restoration today. The Auricon was legitimized through the intent of those who used it, not economic viability, and it bodes well for us to understand that connection.

"I finally became part of the situation myself, not the deus ex machina but one with Jason and the camera. At last I found the ability to swing along with what was happening spontaneously, with no preconceived judgments. I started to trust Jason and the camera and not insist of being the controller." Director Shirley Clarke speaking of Portrait of Jason (1967) shot with an Auricon. (4)

Straub: When you film in direct sound, you can't allow yourself to play with the images: you have blocks of a certain length, and you can't use the scissors anyway you want, for pleasure, for effect.

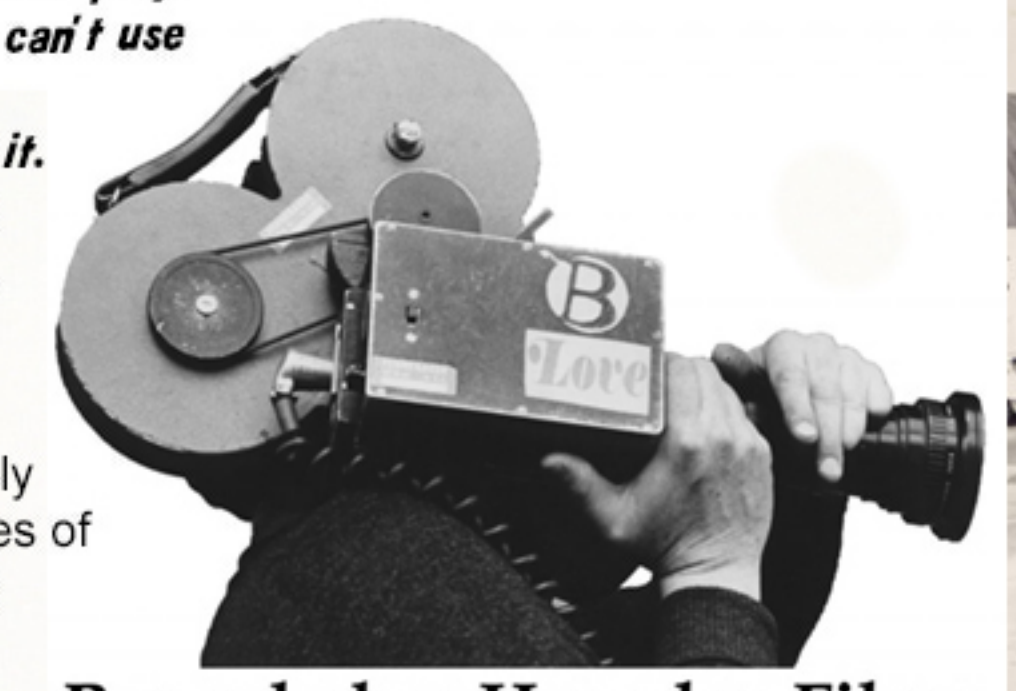
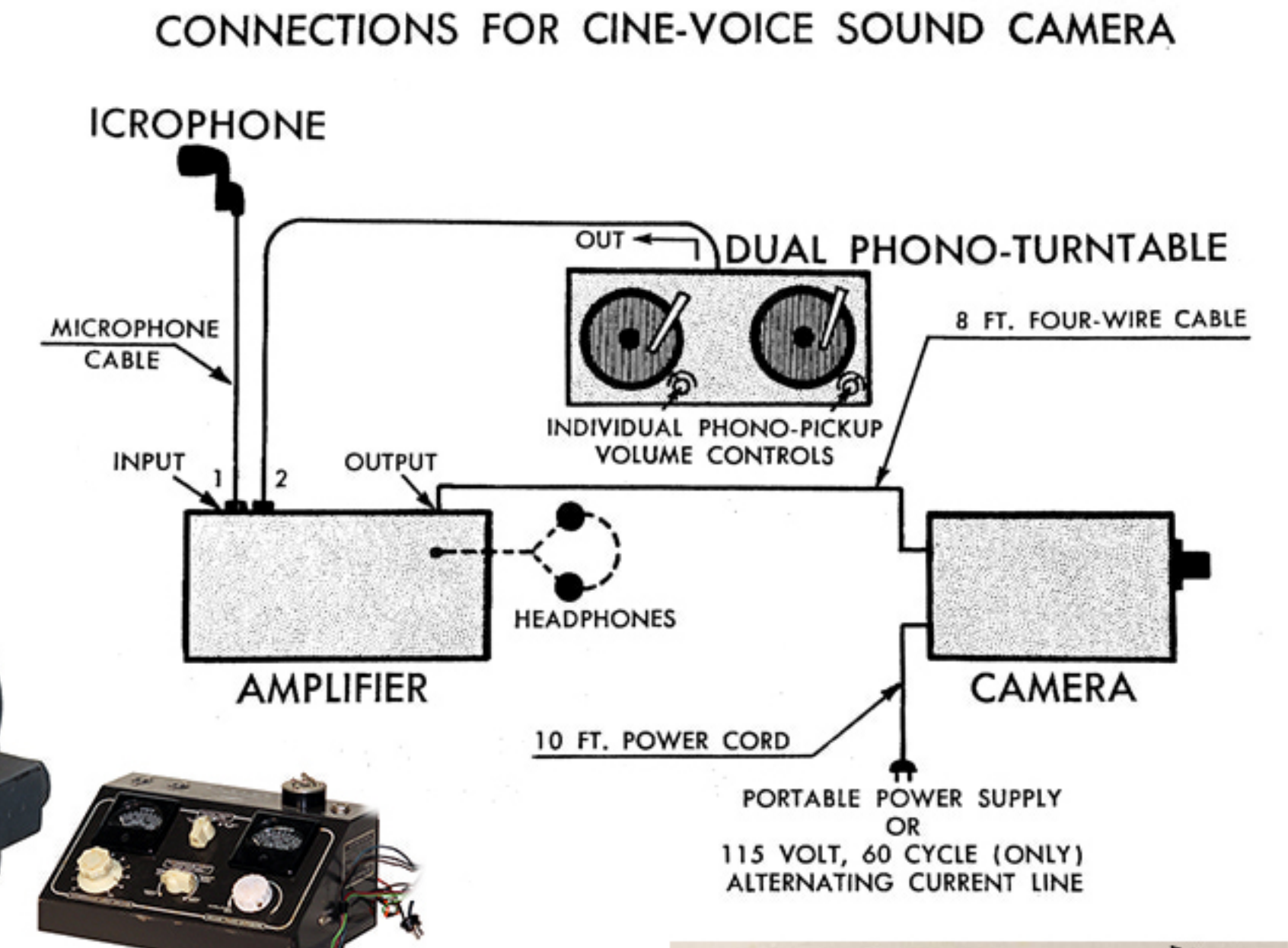
Huillet: ...Each image has a sound and you're forced to respect it. Even when the frame is empty, when the character leaves the shot, you can't cut, because you continue to hear, off camera, the sound of receding footsteps. (2)

In his film *Standard Gauge*, Morgan Fisher meditatively scrolls through cinematic time, or more specifically – frames of 35mm film by using a voice-over narration in a complex single shot plan-séquence. The title is taken from a text by silent-era stalwart W.K.L. Dickson, who authoritatively determined that 35mm would be the motion picture "standard gauge". The film is a marvelous stroll, frame by frame, of the motion picture in its tangible material essence. Fisher could have only shot the nearly 33 minute film (16mm, 1200ft.) with an Auricon single system camera (an Arriflex M would be the only alternative) This is a detail that is not without irony, since the byproduct of the imaging devise he chose does not capture standard gauge, but small gauge film stock. Fisher's analysis is complete, "in the can", synchronously. It only takes a lab technician to process the roll to produce a complete cinematic document.

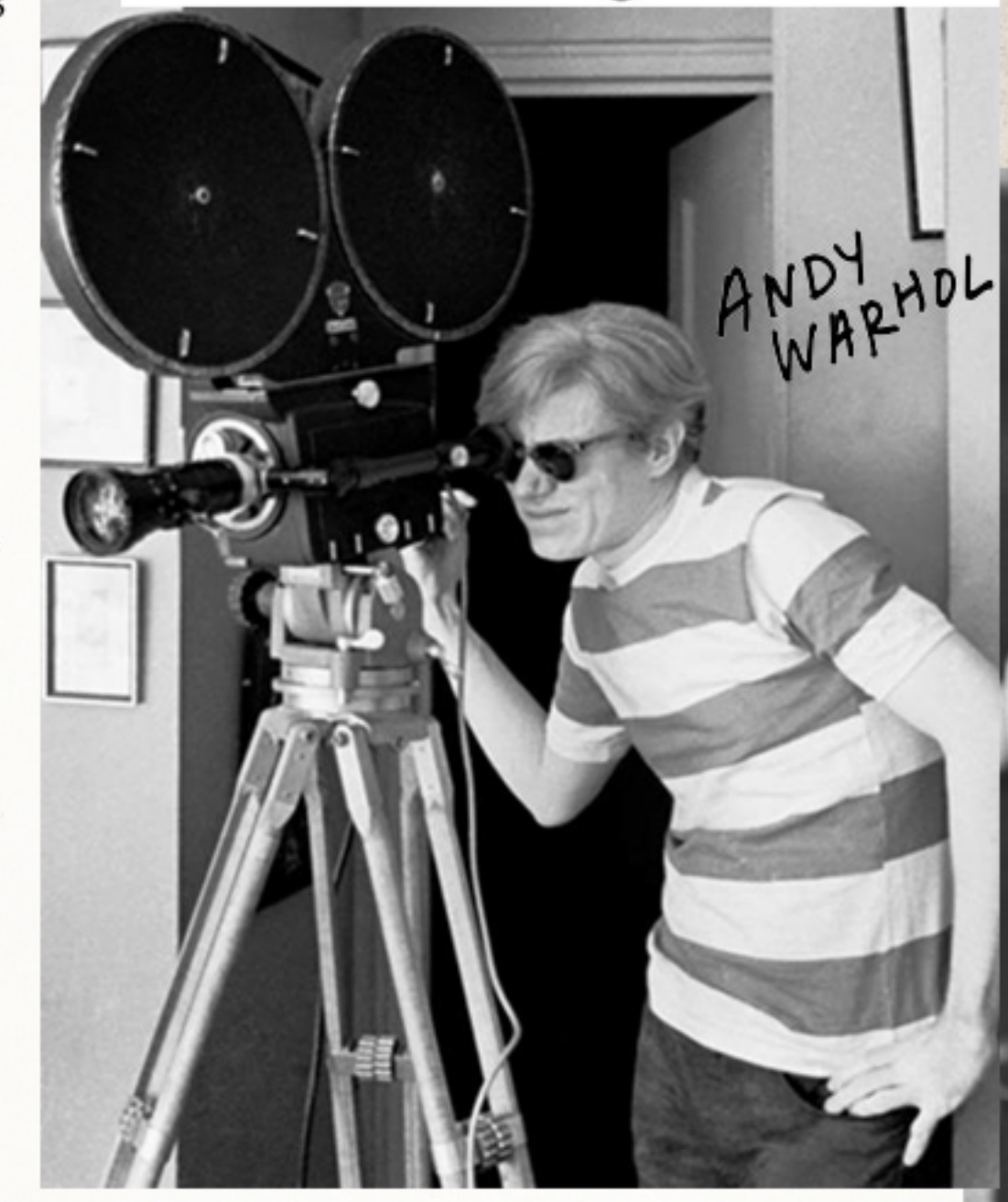
Andy Warhol's film work constantly played with the line of truth and artifice – and most certainly duration. His early silent films carried with them nearly 70 years of cinematic memory. However, these weren't products of l'Usine Lumière à Lyon Here was a different Factory, which was more likely to be touched by the hand of Jonas Mekas, than by the industrialist brothers of French cinema. This was literally the case with *Empire* (1964), oddly enough Warhol's first Auricon film, which was shot by Mekas; who had previously shot *The Brig* (1964) with an Auricon because it was the cheapest and easiest way to present a film. Three days later he screened it, and impressed Warhol with the economy of the system.

There is nothing hidden about the Auricon's hard cuts, which combine a sonic pop with a flash frame to announce an in-camera cut like none other. It's a visual signature: a cue that communicates an ellipse to the viewer. Edits are supposed to be invisible, but here there is signed juncture, a jump, an absence. In essence the filmmaker is showing his hand This is in itself a gesture of validity, honesty even, that wordlessly furthers the sense of reality the camera is capturing. One can clearly see this in the rhythmic editing of the shower scene in *Bike Boy* (1967). This can be contrasted with the long takes of films like *Chelsea Girls* (1966), where the scenes are literally determined by the roll out of the film magazine.

The new cinema coming out of the years after World War II was focused on examination rather than following heroes of conventional genre: "this is a cinema of the seer and no longer of the agent." [5] In montage before the war, every shot relied on the shot that came before or after it, creating a "present" Afterwards, directors lead by the Neo-Realists were exploring a direct representation of time, which we can now trace to modern documentary rising from cinéma vérité and direct cinema – whose paths were concurrent with the ideas of the Neo-Realists. The Auricon was a camera that embodied this ideology, and it left its mark through the intrinsic use and modification made by the filmmakers, rather than the camera market This remains the camera's signature, as much as its single-system picture and optical track.



Pennebaker Hegeudus Films



ANDY WARHOL



DAN KEEVER

"That's an Auricon 600 studio film camera. It weighed 45 pounds – just the body," Kever writes. "The magazine was made to hold 600 ft but we shot 400 ft loads. The empty magazine weighed 15 pounds by itself."



BACH AURICON, Inc. 8250 Romaine St., Hollywood 38, Calif.

(1) Comer, Brooke. "The ASC Honors Albert Maysles' American Cinematographer. 79.1 (Jan 1998); (2) "Direct Sound: An Interview with Jean-Marie Straub and Danièle Huillet." Weis, Elisabeth, and John Belton. 1985. (3) Barnouw, Erik. 1993. Documentary: a history of the non-fiction film. New York: Oxford University Press. (4) Mekas, Jonas. "Interview with Shirley Clarke". Movie Journal: The Rise of the New American Cinema, 1959-1971. New York: Macmillan, 1972. (5) Deleuze, Gilles. Cinema 2: The Time-Image. Minneapolis: Minnesota, 1989. Thank you: Dino Evertt; Michael Friend; the Frank Mt. Pleasant Library of Special Collections & Archives Library, Chapman College