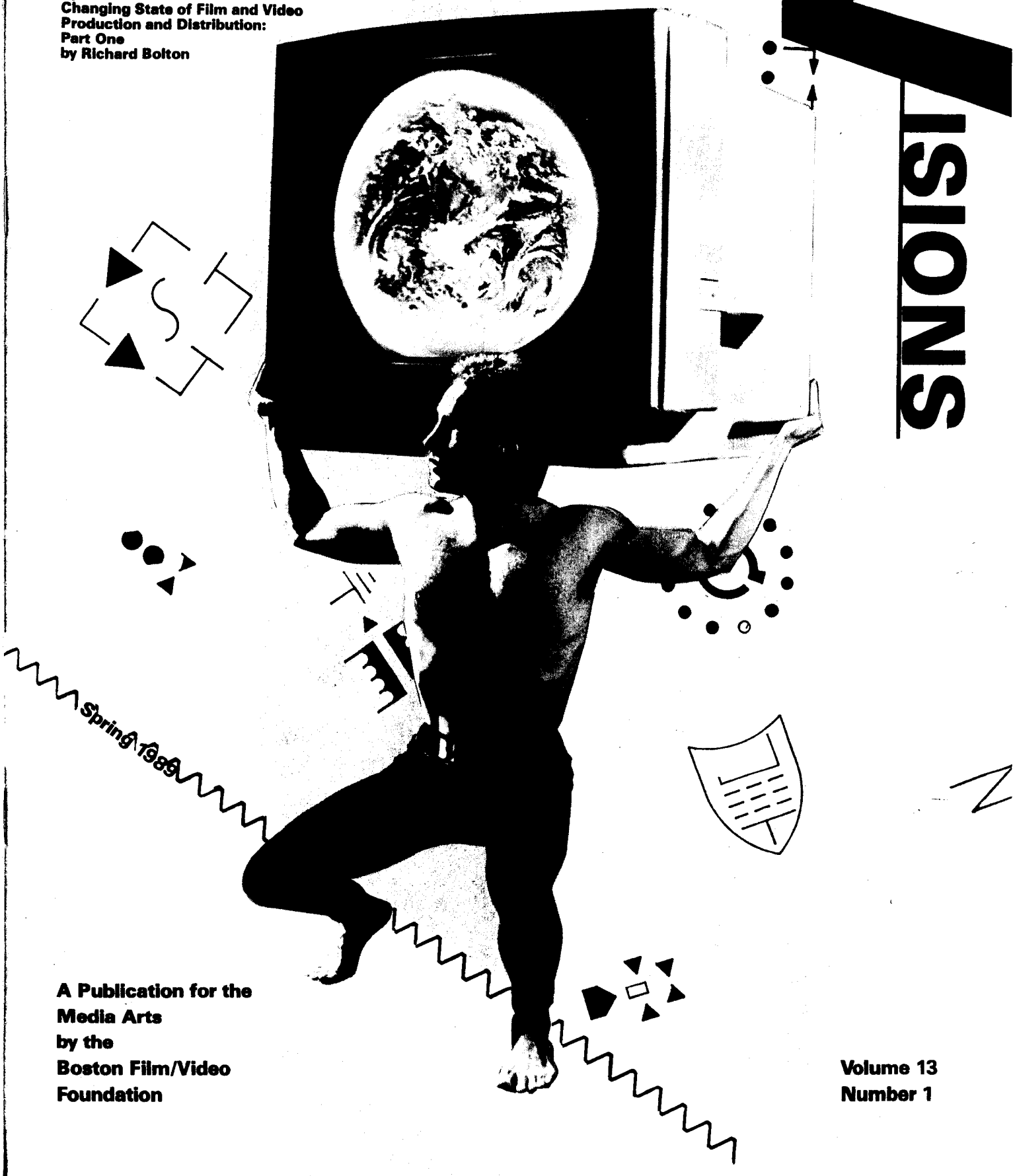
VISIONS

Special Feature
Changing State of Film and Video Production and Distribution: Part One
by Richard Bolton



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"Just Plain Better" and Radically New: Focus on the Aaton LTR

by Gloriana Davenport

I first used an Aaton LTR in 1982 and have subsequently been involved in a variety of film projects using this camera. For a moviemaker to write about a camera which one considers to be the best, might be considered an act of directed self indulgence. I admit to having two camera favorites: the Sony Handycam and the 16mm Aaton LTR. Clearly the two are in different leagues. The Handycam, which Sony no longer manufactures, is the equivalent of a "Brownie" box. It is, on the scale of motion picture recorders, affordable. I own one and take it everywhere. It is the first motion picture "diary" camera of consequence.

The Aaton, my other camera, is a beautifully engineered gem designed to maximize the apparent resolution of the 16mm film image. For most independents, with no promise of day to day employment as a film camera person, owning a 16mm synchronous sound camera may be economically impossible and practically absurd. Even so, over the past 20 years, Boston has built a reputation for a rich and diverse body of work by independents in 16mm. A community of media makers, sharing ideas and resources, has supported the development of this work. Now, a state of the art synchronous sound 16mm Aaton LTR, donated by the designer, is available to the Boston film community at BF/VF.

I first met the designer, Jean-Pierre Beauviala, when he visited MIT's Film Section with Jean Rouch. Beauviala told me about a movie he wanted to make about a city, Grenoble. His idea was to explore the many strands of happenings between people in a city, using real time as the thread to explore cause and effect, action and reaction, ignorance and knowledge. To make this film, Beauviala needed to record absolute time on both picture and sound. This would allow him to synch up and edit later. The problem is similar, in the inverse, to shooting a music event with many cameras and only one sound recording. Impossible to make at the time, his film concept gave birth to Beauviala's idea of time code for film.

In order to realize his idea for time code on film and Super 16 as a generation medium for 35mm film, Beauviala designed a camera from scratch. His dream was to develop a 16mm camera which would satisfy a range of production requirements including rugged documentary work and low cost production of films which would be released in 35mm to theaters. In developing the Aaton, Beauviala paid infinite attention to all of those elements which filmmakers care about: the sharpness of exposed image, the brightness of viewing image; the mechanical and electronic robustness of the elements; quietness, holdability, and ease of loading; and adjustable frame rates, particularly from 24 fps to 30 fps for television production in America.

What makes the Aaton so special? Anyone who has had experience shooting 16mm synchronous sound film with some other camera will appreciate the brighter and therefore crisper viewfinder image. Designed with a fiber optic concave viewing screen, the quality of this image makes precise focusing much easier.

Also notable is the quietness of the transport although it can be so quiet that the camera person may fail to hear the film run out. The quietness makes a real difference in the quality of the synchronous sound recording. This is particularly noticeable to those who shoot "Chicago style," where the filmmaker holds the camera in one hand, and the microphone in the other.

Finally given a quality 16mm projector, cinematographers will "ooh" and "ah" over the sharpness and stability of their projected rushes.

The quietness of the camera and stability of the photographic image can be attributed to the design of the central chasis and the magazines. The film travels along the film channel via a long twistless loop and is positioned by the springless "posi-claw" in the gate. The magazine design allows the film to be threaded in advance. Loading and unloading film, albeit in a black bag, which as Richard Leacock once commented, is the most archaic aspect of film technology, is a breeze. I have never lost a core in the bag, nor to my knowledge, have any of my students. The claw is driven by a brushless motor which contributes to the extreme quietness of the camera.

For those of us who handhold, comfort must be added to this list of basic features. The Aaton (with battery, without lens) weighs about 13 pounds. Given the brightness of the viewing image and stability of the recorded image, fixed focal length lenses which are both sharper and lighter than zoom lenses, and keep the center of gravity toward the rear of the camera body offer a truly exciting shooting experience. Even with a zoom lens, the camera settles nicely on the shoulder.

All the above features are present in BF/VF's Aaton LTR. Not yet available, though a future possibility, are two revolutionary features: the Aaton time code system and the Super 16 gate.

Working with the Aaton time code system dramatically changes one's shooting technique and offers the editor unique flexibility in working synchronously with sound and picture. An array of seven micro LED's implanted in the aperture plate just above the top of Aaton gate are programmed via a clock inside the camera, to expose human-readable and machine-readable code during pull down along the edge and between the perforations of the film. Beauviala named the human-readable numbers "clear-time coding." His invention took the film and video industry by storm. Film was for the first time party to the benefits of the computer age.

The analog of the camera time clock is the time code clock which Aaton developed for a variety of sound recorders. This clock either places an audio burst at the head of each sound take or modulates a continuous code into the pilotone. The audio burst can be read by machine and printed in human readable form on the base of the magnetic stock when the sound is transferred. The camera clock and the clock on the sound recorder are initiallized by a master clock, a separate module formerly named the Origin CX, now renamed the Escort. The result—the film is linked to recorded sound via a common time code address. The system works for multiple cameras and/or sound tracks as easily as for one of each.

The Aaton time code recorded directly on film and audio tape obviates the need for the costly (in terms of film footage) and archaic slate or clap as a syncing or indexing device. Human-readable code allows rapid, traditional syncing of film to track. Machine-readable code allows electronic synchronization of rushes transferred to video. It has had a dramatic effect in encouraging video post-production for film, as rushes can be synced during transfer. In cases where the syncing occurs on the flatbed but the producer wishes to release in film and video, the negative cut can be made such that CMX program and edge number trace programs are generated.

All LTRs can be adapted for a Super 16 gate. In this format 16mm film is exposed with the 1.66 aspect ration typical of the 35mm frame. The exposed frame includes the portion of the film in standard 16mm prints which is reserved for the soundtrack. While encouraging beautiful composition, the format is only appropriate for films which will be blown up to 35mm. For this class of projects Super 16 offers filmmakers considerable savings over 35mm on equipment rental and stock, with a bonus of greater portability. Producers wishing to blow up to 35mm must carefully research their methodology in advance, making sure to select the correct lenses, and order single perforated stock. In terms of camera operation, the cross over from the standard 1.33 to the 1.66 of the Aaton Super 16 format, although relatively straight-forward, does require some knowledge of the camera architecture, and practice by camera operators.

In combination, the "just plain better" and the radically new in Beauviala's design led many well-known and not-so-well-known camera people to purchase or exclusively use Aaton cameras in the early 1980's. The roster includes such familiar names as Michel Brault of Canada's National Film Board, Albert Maysles, Jean Rouch, Richard Leacock (following the example of his son, Robert), Jeff Krines and Joel deMott. It may soon include yours!

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