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From the The Zavada Report - Part 4:

**Practical Camera Testing with the B&H 414PD Camera
The Quest for Cameras, Film and Process**

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Excerpted from The Zavara Report, Part 4.

Undertaking the challenge of describing the technical parameters of a vintage camera requires more than a literature search. Photo journals do provide reviews, and "Consumer's Report" may include the model in one of its rating tests. But, the only sure way to evaluate the essential image parameters is to do some "hands-on" testing. Thus a plan that required a camera, film and a process.

With the archives of the George Eastman House, and my awareness of their having the Bell and Howell collection and many cameras from the Kodak patent museum, a call to Todd Gustavson (Motion Picture Curator) was one of my first considerations. The Eastman House did have a Bell & Howell 414PD camera in their collection and, with Board approval, there was the possibility of obtaining a loan for testing.

My background made me aware of several amateur camera collectors, and with the exception of Alan Kattel, of the Movie Machine Society, I "batted-a-zero". Alan had a 414PD and willing to let me give it a try. However, my first choice was to obtain my own camera that I could use or abuse at will. P> In pursuit of a used piece of equipment I turned to the classified ads. The publication of choice for cameras is "Shutterbug", and I explored many avenues from ads and leads without success.

If I wanted a used Kodak camera, I knew that Rochester was saturated because of employee purchase opportunities. My brother-in-law, Bud, lived in Chicago, the home of Bell & Howell, and the logical assumption was that this could be worth a try. An ad in the Sunday classified turned up a Bell & Howell 414 Director Series camera. It was similar to the Zapruder camera, but without the power zoom and dual electric eye. A second source yielded a Bell & Howell 414PD, not only the same model but also only 30 serial numbers different than Mr. Zapruder's camera (SN134567). Subsequently, I acquired two more 414PD's and a 414P. I was "in business" for practical evaluation.

Bud had become a major contributor to the project.

Test film: Kodak had not sold double 8mm film for many years and no perforators were available in Rochester. There was some non-USA film available and the Rocky Mountain Film Lab could supply infrequent processing (a contingency plan at best!).

Kodachrome as a daylight 25 and Tungsten 40 were still being manufactured. With significant cooperation, I located a double-8 perforator in Colorado, and was able to obtain a dozen 8mm camera rolls of spooled Kodachrome 25 Movie Film (Daylight)/7267 and Kodachrome 40 Movie Film Type A/7270. Qualex, of Dallas, Texas, was found to be the only USA source for processing the

Kodachrome film and assisted in supporting my first few camera tests.

My success in locating Bell & Howell 414 cameras gave me the opportunity to do practical tests with several cameras, and to dissect and disassemble a camera to view its components. Because the feature of a ratcheting pawl adjacent to the image forming aperture contributed to images forming light between the perforations, I desired to study and obtain other cameras with similar design characteristics for testing. Like-it-or-not I was becoming an 8mm-camera collector by default.

The camera tests and their analyses are described throughout the text of the report. In spite of their age, all Bell & Howell and other test cameras performed remarkably well.

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