Welcome to Vancouver #4
Peerless and Ageless

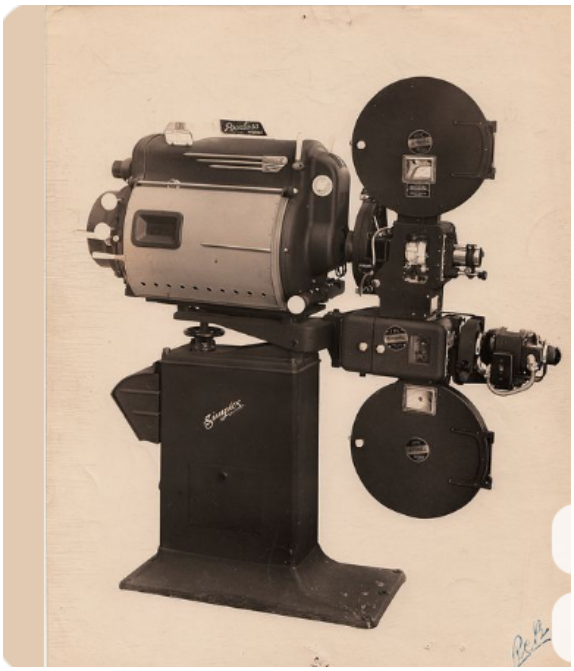
1939 was during the heyday of movies. Theatres were the showplaces of the latest and greatest innovations in entertainment. The Hollywood studios boasted they had "more stars than there were in heaven."

Back then, projectors had carbon rods that produced an arc – just like the light produced in welding. The light was focused by a parabolic (dich-like) mirror and shot through the 35mm film with the image expanded thousands of time onto a silver imbedded screen some hundreds of feet away.

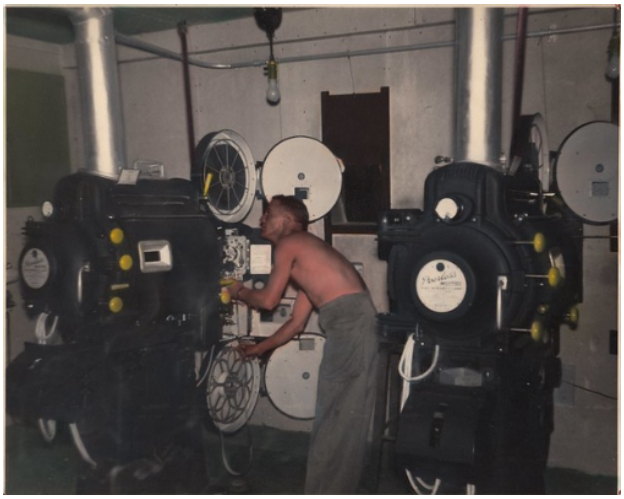
That beam of light was so strong it could burn through something held steady in front of it.

Shortly after I graduated highschool in 1972 I got a job as a theatre projectionist working on one of the finest (and most complicated) projectors ever built, the 1939 Peerless Simplex MagnArc.

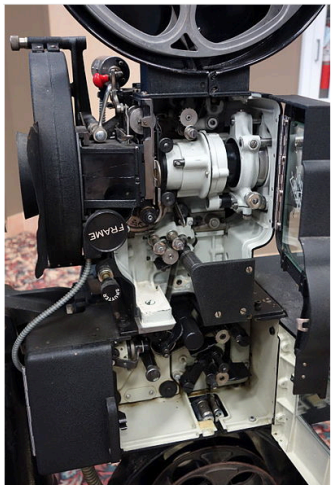
This is how most folks picture 35mm film. Theatres received cases of film with reels of film, each running about 2000 feet. The average movie was six reels long.



My job was to change the reels about every 15 - 20 minutes. At the signal you would transfer the projection in a fashion that the audience would not know you just went from one machine to the other. After the transfer you had to stop the first projector and remove the bottomm reel, transfer the empty upper reel to the bottom magazine and then thread a new reel.



The projector would pull film from the top reel and feed it to the bottom. If you did not tread the film correctly the picture would jerk or even worse, the film would break.



Part of the job entailed inspecting every reel that came in to see if someone had earlier mishandled the film and had spliced it back together. Sometimes the splices would not hold and the film would separate. The audience would see the film stop on a single frame and then watch on the screen before them as it started to burn and dissolve.

One of the cinema industry's greatest achievements was the film used from the 1920's all the way up to 1952. Movies were shown on silver nitrate based films. It provided brilliant, detailed imagery and after 1939, dazzling colour. (It also had a problem the public rarely saw). Silver nitrate film had a limitation to its use. It was highly flammable.

Projection booths were equipped with heavy metal plates positioned over every portal and a metal wrapped door, all connnected and held open by a large counterweight. If the film broke through improper threading or a weak plice and the film started to melt and burn your instructions were to kill the DC amperage power supply and yank the cord by the door as you ran out of the booth so the plates would drop and the door would slam shut to contain the explosion as the fire reached the film reels.

Technology marches on. For a while Hollywood dabbled with the idea of twin projectors working in sync for a more realistic, almost 3-D film effect, but the units weighed 2700 pounds and the idea (much like quad sound instead of stereo some 30 years later) never caught on.. Film was changed to an acetate base in 1952 making the lives of the movie-goers (and projectionists) much safer.

which is housed the exhibit which reflects the far-flung activities of the greatest photographic company in the world—Eastman Kodak. Passing through a dimly lighted foyer, the visitor enters the Great Hall of Color—a majestic, semi-circular room 65 feet in radius with a total area of 6500 sq. feet. Here he will see the most extraordinary photographic pageant in history, which utilizes projection facilities hitherto undreamed of by even the most advanced practitioners of the art.

An enormous screen—22 feet high and 187 feet long, extends along the entire inner circumference of the Great Hall. Along this screen, in single panoramic views and in groups of pictures, there passes the greatest show of color photography ever seen.

● **Continuous Color Projection**

Before the crowd's eyes, familiar scenes melt into places strange and far away. Time is condensed along with space as the world passes in review. Summer fades swiftly into winter, and just as swiftly back to summer again. In a few breaths, a majestic Western canyon scene changes from dawn to midmorning, to noon, and declines through afternoon into night. Hundreds and thousands of pictures join in the kaleidoscopic march—pictures of people young and old, at work and at play—scenes of sunshine and mist and twilight—flower garden and park and woodland—shimmering glory of sunset.

The screen is never dark. One 187-foot scene or group of scenes dissolves into the next, smoothly. Single pictures in groups of eleven are interspersed between the panoramic views—and all in rich, glowing color.

It is a spectacle so dazzling as to be almost incredible. Even less credible to

Here are shown only the frame and lenses of one projector and, back of lens to the right, one of the lamphouses and heat filter. Weight, 2700 pounds

screen pictures are projected from small full-color transparencies little larger than a special delivery postage stamp. The interest of those who will view this spectacle will be divided between the color pageant and the mechanical ingenuity which makes such an exhibit possible—and this is where the projectors demand attention.

Each projector is a "twin"—two projectors in one—and each weighs nearly a ton. Nearly as tall as a man, the projectors bear no resemblance to conventional projection equipment. In them, each of two 45-inch steel drums carries 96 color transparencies, firmly mounted on glass. Special gates and shutters are used for "fades" and "dissolves."

● **Use 11 Twin Projectors**

Eleven similar twin projectors are concealed in a spacious projection room just under the roof of the great hall. Through each of their gates stabs a brilliant beam of light. Tiny color-film transparencies, about 1 x 1½ inches, made on standard Kodachrome film, pass these gates—to become full-color screen pictures approximately 50,000 times as large in area! Each of the screen pictures is 17 feet wide and 22 feet tall, and eleven of them *exactly* fill the 187-foot screen. Interestingly, the transparencies which produce these enormous pictures were made with cameras similar to those used by thousands of amateurs.

As each small full-color transparency comes into position, it is registered in

12 INTERNATIONAL PROJECTIONIST

In the 1950's and 60's you could buy a portable 35mm projector. It had a bulb instead of carbon arcs and was about as big as a medium suitcase. That led to 16mm projectors and soon enough 8mm for home use.

FIGURE 1. *Photograph of picture tube image in England*

FIGURE 2. *Photograph of picture tube image in America*

The Road Ahead for Television†

By *I. J. KARR*
GENERAL ELECTRIC COMPANY

Television standards having been agreed upon in the U. S., regularly scheduled television programs will be offered soon along with commercial receiving sets. How good will television be and what are the problems—technical, artistic and economic—yet to be solved before

FOR several years the public has been increasingly curious to know when television would be introduced commercially, and a great variety of explanations have been advanced by uninformed persons as to why it has not happened already. Of course, at first the reason was lack of technical quality; but in the past few years the quality of pictures achieved has certainly been good enough to interest an increasingly

"sponsors," who pay enough for their own programs to enable the stations and networks to fill-in the unsponsored time with sustaining programs of good quality and to make a profit in addition. However, this situation now requires the existence of tens of millions of receivers in the country with listeners who may be induced to buy the advertised products.

Such an audience does not exist in

The medium of television that was fledgling in 1939 began to gain popularity in the late 1950's and early 1960's. And as stations sought out cheap programming the old film libraries that the studios maintained became a veritable gold mine. Studios made a second income and stations had long programming blocks taken up for little cost.

I remember growing up that my father was very proud of his high fidelity record player, commonly called a hi-fi, and his reel to reel tape recorder. One day he brought home a much smaller tape player that took a cartridge. It used the same reel to reel tape but it was in a plastic cassette about five inches tall and seven inches wide that you had to assemble, load with the audio tape, and secure with small screws on the corners. About 15 years after that breakthrough came small cassettes and then the Sony Walkman.

In each case, one era's technology was supplanted by another's and the flaws of the previous one became evident in ways that had not been seen before. When Ted Turner bough t a small TV station in Atlanta and decided that rather than broadcast he would send out his signal over the satellite to cable network providers, he bought a library of old Hollywood silver nitrate movies. Even though they had been stored in climate controlled vaults it was soon discovered that some of the films had deteriorated with the frames, in essence, almost melting together.

Media affectionados later discovered that audio – and later video – tapes were losing the magnetic particles that made the music and the movies possible. If it had been print it would be like opening a book to find that some of the letters had fallen off the page. And yes, if you were not aware, even printed materials deteriorate over time. Nothing remains pristine as the years march on. Newspapers yellow and crumble. Some book pages do the same or stick together if moisture has invaded. Photos adhere to each other. The hard reality is. . . over time quality fades.

Time has a way of slipping past and adding up when you are not looking. Everything is

going along and you feel as if you are aware of everything in your life. . . and then you find the four-year-old lasagne in the freezer.

Having spent the last few years in Ghana I was spared that surprise. But i was nonetheless somewhat chagrined to sit down with boxes of memories on reel to reel tape and realize that 50 years had not treated their contents well. Cassettes at 40 years did not fare well either. I found myself listening to a song that would drop in volume or disappear. It brought back the memory of the Movie Men in Black where Tommy Lee Jones picks up the latest technology in music; a cd the size of a quarter and laments, "Now I have to go out and buy another copy of the White Album."

While there are things I will miss – or would if I could find what they were – I must gather my materials and send them off to fill a hole in the earth and support a bulldozer that will roll over them, burying what has deteriorated but will probably never dissolve.

This reflection has also reminded me that while media will over tiime disappear. . . the friends I have – some of whom I have gratefully held longer than the media that is no more – do not fade. Of all the things I have brought with me through life these will never fit into a box or fall to the back of a space and become forgotten.It is my friends who will always bring me a satisfaction that has endured and will continue. Nothing can improve on friendship and love that is held close. And no time will ever diminish the details.