



ANTIQUE TELEVISION TOPICS



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THE PHILADELPHIA STORY

Philadelphia probably owes its existence to William Penn whose statue is on a tall building in that city. Right now it is being restored like the Statue of Liberty. As for television in Philadelphia, on the top of the list is a man named Charles Hartman. He was born in 1900 in a little town across the river called Millville - where he still lives on Main Street.

While in grammar school, Charles built a wireless transmitting and receiving set. When he was eleven he picked up the S.O.S. from the Carpathia which described the sinking of the Titanic. He told the story to Mr. Middleton, editor of the Millville Daily Newspaper, but he evidently did not believe the story of an eleven year old boy and no notice was printed until other papers picked it up two days later.

The Titanic, a White Star Line Steamship was the largest most luxurious ship sailing at high speed about 1600 miles northeast of New York City with 1517 passengers aboard. It hit an iceberg and sank, The Carpathia rescued 706 people who were in lifeboats in the water.

Charles writes: "Regarding television, I am deeply interested in what went on in this general area of my birthplace, but very few people born after 1935 are one bit interested. Automobiles airplanes and people landing on the moon are commonplace and have always been here, so they believe. They believe television when it was first introduced was just as it is now. People almost call me a liar when I tell them I was receiving and transmitting pictures back in 1928. The fact is I keep away from talking about it because of their skeptical attitudes.

I has a wonderful period of youth (I did not know it at the time though no doubt I thought I was picked on) - there were so many things I was interested in that they cannot be recited in this letter. My Father was a skilled (German decent) blacksmith and tool maker. He was a genuine all around mechanic, carpenter, blacksmith, machinist, but he knew nothing at all about electricity. His mother was left with two when he was about 8 or 9 years old and he and his brother had to be bound out to other families to be raised. My Father was bound out to a farmer four miles from Millville and there he stayed until he was married to my Mother. These farm people were always called Aunts and Uncles and they were marvelous christian people. The raised and schooled Fater just as one of their children and when they died they left him 20 acres of the farm plus money just as they did their own children.



But as I came along as a boy it was railroad trains, and I wanted to be a railroad engineer. Well the idea passed and in June of 1911 I heard my first NAA time signals on a boys set up the street. That was marvelous beyond description, as I had been reading about Marconi and wireless. That night as I lay in bed I kept hearing those signals. From Electro Importing Co. catalogue, which I quickly obtained, I read more about how to make or buy the necessary parts. Soon I had a set and antenna erected, but try as hard as I could, I heard no signals. Father and Mother knew nothing of what I was jabbering about but let me go on. A neighbor woman across the street was much interested in my mechanics and talking and always encouraged me. I had a springloaded needle on galena and galena needs an extra light contact. Finally substituted silicon and that is sensitive at almost any place. I heard NAA time signals at noon and threw off the single head fone, dashed across the street for the woman neighbor, she dropped her work and hurried up to the third floor and heard the signals with me. That was about August 1911. By Christmas I knew the code.

Then I progressed from bell-buzzer transmitting to mogul I Ford spark coil, then 1/2 KW Packerd transformer, then 5 watt tubes and a single 50 watter. Then I became interested in television. I soon got away from drilling holes in discs, Drills walk away from a center prick punch mark many thousandths in all directions. I made a small punch press with about a 3/8" diameter punch rod and into the end of the rod was about a 1/16th" hole into which I set an ordinary needle with a set screw. The point of the needle was ground off flush to the diameter so the needle actually punched a small piece out of a .025" thick disc. For any disc over 20" diameter I dressed needles to perfect squares of correct cross sections and punched square holes. The punch press itself was mounted on guard rails that could be advanced toward the center of the disc by a micrometer screw the correct number of thousandths. The spacing of holes around the circumference was indexed from holes in another disc on the same shaft. These holes were right near the edge of the indexing disc and about 1/16th" in diameter. This disc had a tapered index pin set under the disc which engaged the holes for indexing. The original indexing holes were done on a 16" disc which reduces the error in locating. This 36" disc I called my master index disc.



It was used to make other smaller index discs as a matter of convenience. One eighth thick lens discs were first made with about 3/16" disc holes. Then a piloted drill was used to enlarge the hole. A hole smaller than the lens was drilled all the way through and the hole the exact size of the lens was drilled half way through. We only run discs 1200 RPM.

There were no synchronizing motors available so he took a standard KSD GE 1/4 HP motor and cut the stator and made it synchronous. Reshaping the stator was not good engineering but it caused them to run synchronous and generates a little more heat. The AC magnetic fields on both sides of an aluminum disc on an Eddy current motor is simply another version of an induction motor. The speed varies with each little surge in AC current and disc framing varied over the airways.

SYNCHRONOUS MOTORS 110v

We sold lots of synchronous motors to X-ray manufacturers, experimenters, laboratories and schools. I became well known to the head of the fractional horsepower motor department of General Electric and when he found out what I was doing, he turned all inquiries for the synchronous motors over to me. G.E. would not alter their motors to run synchronous so they let me have the work and put them out under another name.



Synchronous motor
1/6 HP 1800 RPM \$17.50
1/8 HP 1200 RPM \$20.75

"I sold several 24" X 1/8" thick lens discs in the Philadelphia area. I also sold perhaps five or ten 18" diameter lens disc scanners as pictured on the front page of my catalogue. One set I sold to the Manhattan School of Engineering in Manhattan, Kansas. I think that was it or maybe the Manhattan State College. Another pinhole disc complete with motor and tapered pulleys I sold in Boston and his name was Rocco Scaletti or Scaletta. I remember him so well because at first he could not get any picture on it and he wrote a nasty letter to the president of Deinert and Eisenhart, George Koch, now deceased and George had him send it back. We took his 1/8th HP straight induction motor off and put one of my 1/4 HP synchronous on and tried it out in Philadelphia and put a piece of adhesive tape across the adjustment knob and sent it back to him. Quickly a long letter of praise came stating that he had hooked it up and there was a picture right away. You might be able to find some Scaletties in Boston directories and contact them and see if they know Rocco. I would judge he would be in the age bracket of 65 or 75 if he is still living.

I received the signal from Baird in England but only could make out and hold the lines. In Philadelphia we could get Purdue University, Purdue, Philco, Camden, RCA, Jenkins, Washington, D.C., Jenkins, DeForest, Jersey City, N.J., NBC, New York City, Radio Picture Company, New York City, Columbia Broadcasting Company in New York City.

In 1924 Hartman studied the idea of motion picture transmittal and experimented with it. When Charles Francis Jenkins got the first television picture on the air in 1926, Hartman received it on his experimental set.

The unusual and unique system of synchronizing the motor speed on the Hartman scanners by means of tapered pulleys was the only one of its kind in that period. When the belt was around the wider side of the pulley and at the narrow side of the disc pulley the disc speed was increased and slowed down when when the belt is moved to narrow side of the motor and at the wider side of the disc pulley. There was a hand operated lever which moved the belt and held it in the desired position.

When Hartman was 19 he worked as a generator and magneto repairman and in five years established his own business. It was called the Philadelphia Storage Battery Company. He made radio receivers from 1925 to 1928 at 1304 North Howard Street. The Philadelphia Storage Battery Company manufactured 2500 to 3000 lead storage batteries for radios and automobiles that used magnetos to produce the high voltage and spark in internal combustion engines back in the days before self starters and you used a crank to start the motor. When the depression came and magnetos were no longer needed the battery business declined, the Philadelphia Storage Battery Company which used the abbreviated name Phil. Co. or Philco was in financial trouble and the ownership changed.

When the Philco operation changed ownership, the Hartman Laboratories became a subsidiary of Deinert and Eisenhardt Inc. In 1928 he began to manufacture television picture scanners and parts for beginners who were constructing their own scanners and put out a catalogue in 1933.

A Hartman transmitter was demonstrated in the Philadelphia region before a variety of audiences including experimenters, schools and the general public. His scanners and parts were sold throughout the United States, Canada and one set was sold to the Japanese Government. Individual smaller parts were sold in Kresges 5¢ to \$1.00 stores.

Deinert and Eisenhardt Inc. did all the machine work. He took all the discs over to this shop and attached the lens to the discs and did the focusing. He punched all the pin-hole discs at his place and the holes square to pass more light. Experiments were conducted many times to determine the size of the holes for a 25% to 50% overlap. He got just about as good details with the 50% as he did with the 25%. The 36" disc he used for exhibition purposes produced an actual picture of about 2 1/4" by 2 1/2" square. With a 1 1/2" thick lens it looked to be about 4" X 4". The picture was viewed by long lines of people.

Although Charles tried to contact former customers who had bought his products and others have watched for them to turn up, to date none are known to exist in collections or any other place.

In later years Charles Hartman busied himself with many other things from valve controls to territorial maps and although he formally retired in 1961, has been busy ever since.

The most remembered radio that they made was the Philco Cathedral which was later reproduced as a memento to this original model. Noteworthy in the television line, which started with the 7" table and 10" floor model and eventually the 5" projection set with the Schmidt optical barrel that reflected the image back and upward into a keystone shaped mirror and then onto a screen on the top of the set. The Perdicta with its picture tube on top of the cabinet was a unique change from other models made by other companies, and then the Safari, the first transistor television made in America.

Philco finally had difficulty and was taken over and television receivers made by Ford Automobile Company. This did not last very long and that seems to have ended an episode of one man and his work on television.

ALUMINUM SCANNING DISC



Alum. scanning disc
 14" round holes \$4.50
 19" square holes \$5.50
 24" " " \$6.50
 30" " " \$9.95
 36" " " \$11.05
 Flank Aluminum discs
 drill your own holes
 various prices.

NEON LAMPS
 (Non spluttering)



Neon lamps 1 1/4 x 1 1/4
 plate \$3.75
 1" x 1" plate \$3.00
 crater lamp on application

YOU WILL NEVER BE SATISFIED
 UNTIL YOU HAVE
 TRIED THE
Hartman Scanner

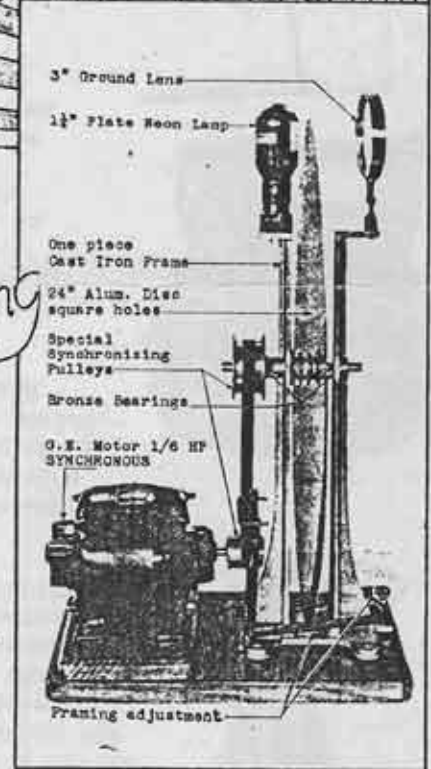
*Forget
 about
 Synchronizing*

Pictures are 99 9/10%
 framed as soon as motor
 is started, due to our
 accurate synchronizing
 pulleys.

Television pictures can
 be held in frame for
 long periods by moving
 framing adjustment.

No. 24 SCANNER- Completely
 assembled as pictured-

\$44.95



HARTMAN LABORATORIES
 Subsidiary of

DIENELT & EISENHARDT, Inc.
 1304 North Howard Street Philadelphia, Pa.

#20-
 SYNCHRONIZING TAPER FACE PULLEYS



Synchronous pulleys
 for reducing the speed
 of 1725 to 1800 by
 shifting belt on tapered
 face. Large pulley 2 7/8"
 small pulley 1 7/8" dia.
 set of two \$3.95

FRAMING LEVER
 (for #24 Scanner)



Framing lever \$1.75

MAGNIFYING LENS



3" dia. lens \$2.25
 4" dia. lens \$3.10
 3" w/o holder \$1.50
 4" w/o holder \$2.25