THEY CALLED IT RADIOMOVIES

It was 1928, and among the stars were Jacqueline and Master Fremont, Miss Constance and 'Dainty Little Jane Marie'

By David Lachenbruch

Although American television generally reckons its birth from the post-World War II period of the late 1940s, the first wave of TV excitement actually swept the country when Sid Caesar was 6 years old, Jackie Gleason was 12, Johnny Carson and Merv Griffin were 3—and eight years before the blessed event in the Cavett household. It's been all but forgotten, but from 1928 through 1932, thousands of adventurous radio amateurs huddled in darkened rooms to squint at dim black objects cavorting across tiny pink screens.

The Depression and advancing technology combined to kill off the early boomlet of "mechanical" television. But the furor over primitive "radiovision" spurred a major industry-wide crash program which resulted in the development of television as we know it today.

The name of Charles Francis Jenkins (Charles Francis who?) has not gone ringing down the corridors of scientific history. Yet he occupied a unique position as the first real television broadcaster.

"We began broadcasting radiomovies July 2, 1928, on a regular schedule," Jenkins wrote in 1929. "In August, one hundred or more had finished their →

receivers and were dependably getting our broadcast picture and were reporting thereon, to our great help. At this writing, thousands of amateurs fascinatedly watch the pantomime pictures in their receiving sets as dainty little Jane Marie performs tricks with her bouncing ball, Miss Constance hangs up her doll wash in a drying wind, and diminutive Jacqueline does athletic dances with her clever partner, Master Fremont."

If this programming doesn't sound as exciting as *Mission: Impossible*, it should be borne in mind that broadcasting little 1-inch silhouettes to an eager, but limited, public was about as impossible a mission as anyone could have conceived at the time. And after a few short years, the whole project was destined to self-destruct.

Charles Francis Jenkins was one of the last of the breed who listed their profession as "inventor." In 1892, at 25, he invented the basic motion-picture projector which is still in use in movie theaters today. In the early 1920s, he turned his attention to the concept of projecting movies by radio, building on a principle developed in 1884 by a German, Paul Nipkow (as did most early television experimenters). This involved the use of a spinning disk, with a spiral of holes near its outer edge, to disassemble a scene into dots, and a similar disk at the receiving end to reassemble the picture.

In 1922, using his own version of Nipkow's disk, Jenkins transmitted a still picture by radio from one room to another. The next year he received nation-wide attention when he sent a recognizable picture of President Harding by wireless from Washington to Philadelphia. In an attempt to interest the Navy in the military possibilities of TV in 1925, he sent a live picture of a moving windmill from near-by Anacostia to Washington, D.C.

Jenkins was one of many early television experimenters, who mostly worked independently of each other. Also on the trail of TV were large corporations, including General Electric Company, which was preparing for experimental telecasts from its radio station in Schenectady, N.Y., and the American Telephone & Telegraph Co., which in 1927 transmitted moving images of "living persons" from Washington to New York by telephone wire.

Jenkins combined his first love with his second to develop what he called "radiomovies"—movie films transmitted by radio. Although the word "television" had come into widespread use as a wonder of the future, Jenkins stubbornly stuck to his own set of definitions: "Television" meant transmission of pictures over a wire; "radiovision" stood for moving pictures sent by radio. Jenkins' radiomovie technique involved a crude version of the flying-spot scanner, a principle still used today in televising films.

With an experimental license from the Federal Radio Commission, Jenkins set out to prove that radiomovie service would soon be ready for commercialization. His film transmissions in 1928 originated from Washington, 8 to 9 P.M. Mondays, Wednesdays and Fridays and were the first regular telecasts designed to be received by the public. The programs were specially selected animated films showing silhouettes of children, dolls and fairies.

Radio was just emerging from the novelty stage, and thousands of amateurs and constructors were ready to experiment with the next logical step —pictures on the airwaves. On request, Jenkins Laboratories mailed out reams of literature on how to construct a homemade television receiver. "Building a radiovisor is really very simple," said one of Jenkins' leaflets. All you needed was a radio and three extra parts—a 55-cent neon lamp, a scanning disk (held rigid by mounting it

between "two 6-inch talking-machine disks you get at the 10-cent store"), and a motor to rotate it. A section of inner tube from an automobile tire was recommended for use as a belt to drive the disk.

To those potential viewers who didn't wish to make their own sets, Jenkins Laboratories suggested, "you will find picture receivers priced from $2.50 upward; if you don't know where to get them, we will advise you."

To receive a Jenkins radiomovie, the experimenter first tuned his radio to the voice announcement of W3XK until it came in loud and clear. Then he switched off the loudspeaker and switched on the neon bulb in its place, and started the motor while peeping into the little 1-inch-square opening where the picture was formed by the blinking of the pink lamp as the holes in the disk whirled by. Some viewers—or "lookers-in," as they were called then—used magnifying glasses to enlarge the picture.

Two television pioneers pose with an early Jenkins 'radiovisor.' Jack Poppele, left, put on CBS's first TV transmissions. Fred Link built transmitters for Jenkins.

Synchronizing the picture was a challenge, since it was necessary to get the disk spinning at exactly the same speed as the one in the broadcast station. With proper manipulation of the speed-regulating screw, one of Jenkins' bulletins said, "the picture will presently appear, probably obliquely, moving more and more slowly until it stops, upright, and there is your radiomovie, in all its fascination. If the picture shows the upper half of the subject and the lower half above it, just touch the disk with your finger once or twice, and the picture will move up until it is framed. Now your picture may be upside-down as you look at the lamp through the spinning-disk apertures, or it may be wrong right and left, like looking at a photograph in a mirror. However, except in reading titles, it is not often important whether the picture is correct right and left, but it is very necessary to have the subject's head up, of course. Right-and-left correction is attained by reversing the motor, while if the picture is upside-down, you must take off the disk, turn it around and put the other side of the disk next to the lamp."

Jenkins' spinning disk had 48 holes, providing a picture composed of 48 horizontal lines, changing 15 times per second—as compared with today's television image of 525 lines and 30 complete pictures each second. Because the radiovisor was hooked up in place of the loudspeaker, there was no sound during picture broadcasts. Jenkins alerted his lookers-in to the fact that "each picture story will finish with 'END,' which means, of course, [that the viewers have] to throw the switch back to the loudspeaker for the next announcement." →

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Jenkins was certain his broadcasts represented the wave of the future. "Ultimately," he told his viewers in 1928, "this pantomime storyteller will come to all our firesides as a fascinating teacher and entertainer, without language, literacy or age limitations; a visitor to the homestead with photoplays, the opera and a direct vision of world activities, without the hindrance of muddy roads or snow blockades."

Even before Jenkins' regular broadcasts began, television fever had been running high among radio amateurs. It was hot enough to support the publication of a magazine called Television, issued sporadically by Hugo Gernsback, inventor, writer and technical publisher. Television was fat with ads for picture transmission experimentation kits, parts, discs and neon lamps. A successor, Television News, was published through 1931. Gernsback owned a pioneering radio station in New York, WRNY, which broadcast regular television programs for a while, starting in August 1928, only a month after Jenkins' premiere. The Gernsback telecasts added something new—simultaneous sound. Two receivers were needed, since the sound was broadcast by another station. WRNY broadcast live pictures, which it scheduled the first five minutes of every hour. A 26-hole disc was required—a step downward from Jenkins' high-fidelity 48-holer.

A month after WRNY's TV debut, giant General Electric planted a widely publicized milepost in television history. WGY, the GE radio station in Schenectady, broadcast—live—the first video drama, an old chestnut called "The Queen's Messenger," selected because it had only two characters. GE stressed that the program was experimental and didn't mean that television was ready.

Encouraged by the enthusiasm of his lookers-in, Jenkins in 1929 built a more powerful station in a Washington suburb and started construction of a television-set manufacturing plant in Jersey City which would have a radiovision station on its roof. Jenkins Television Corporation was then controlled by radio pioneer Lee De Forest's De Forest Radio Company, which built its own Jenkins-type station in Passaic, N.J. By 1930, Jenkins' radiomovies were being shown in half-tone reproduction, with 60 breath-taking lines of detail, and his stations occasionally transmitted live pictures. He even constructed a "portable" radiovision station and broadcast live pictures directly from an airplane.

One enterprising amateur in London picked up a telecast direct from Jenkins' Jersey City transmitter. Another wrote Television News from Flushing, N.Y.: "A few weeks ago, W2XCR televised four girl singers and the tallest girl was the best looking one. . . . In each case the teeth could really be seen." An experimenter contributed an article to Television News entitled "How We Received W3XK Images in Kansas."

Flushed with popular, if not financial, success, Jenkins in 1930 petitioned the Federal Radio Commission to commercialize television, using his 60-hole disc system. The request died without action after a Commission engineer said the mechanical system would create "an unrecognizable mess" and called it "an absorbing field for the experimenter but not ready as entertainment." Nevertheless, the three Jenkins-De Forest stations soon announced they were adding sound channels in anticipation of "the undeniable inauguration of commercial radiovision in 1931."

Amateurs continued to construct and buy receivers. In 1931, daily newspapers in New York, Chicago and Boston were printing TV program listings, and the Radio Commission had licensed 26 experimental television stations, although few of them broadcast regularly. In New York, Kresge's five-and-dime store found the sale of television parts an apparent antidote for the Depression; when it held a TV demonstration, the police had to be →

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called to restore order.

Jenkins Television Corporation was in full production, advertising sophisticated whirling-disc receivers in build-it-yourself kit form for $42.50, or a ready-built "living-room model in de-luxe walnut cabinet" for $100 (neon lamp extra). In Chicago, one newspaper TV listing read: "This program features ballet dancers, tap dancers, harmony singers; sometimes it carries tumbling acts, miniature minstrel shows and a Scotch Highlander act in costume." Not quite Ed Sullivan, but close.

Meanwhile, Jenkins' lookers-in were reading in their hobby magazines and in the newspapers about a proposed new kind of television. Based on developments by Vladimir Zworykin and Philo Farnsworth, it was to use electronic tubes for both camera and viewing device, eliminating the whirling discs.

Major technical corporations—including GE, NBC and CBS—were on the air with sporadic experimental telecasts using various systems. Unlike Jenkins and De Forest, they didn't encourage the cooperation of the amateur. "The present type of television transmission," wrote NBC's general engineer C.W. Horn in answer to an inquiry from Television News, "is so crude, even the best, that it has very little program value. . . . I am interested in improving the equipment so that some day we may have something worth-while."

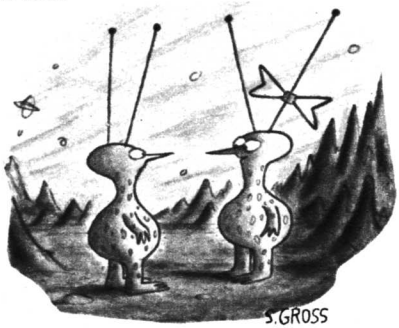
Answering some stockholders' demands for immediate commercial video broadcasting, RCA president David Sarnoff told the company's 1931 annual meeting: "Television promises another great development, but to assure this we cannot disappoint the public and defeat the possibilities of a future great service by hasty and premature action at the present time."

The time was not at hand, either technologically or economically, for the commercial inauguration of this new service. To many Americans, the principal goal by 1932 was to get enough to eat; to the more fortunate it often was a matter of keeping up the payments on their radio sets. Even the seemingly unstoppable radio amateurs were being stopped, many of them jobless and unable to afford parts. In 1932, Charles Francis Jenkins' de-luxe radiovisors with 6-inch magnifiers were accumulating in the warehouse, and his regular broadcasting, which produced no income, was terminated. Jenkins Television Corporation was taken over by De Forest Radio Company, which itself later drifted into bankruptcy. Gernsback's Television News was a memory.

Charles Francis Jenkins died in 1934 at the age of 66, earning a respectably restrained obituary on an inside page of The New York Times highlighting his contributions to motion-picture projection. Interest in television then was high only in corporate laboratories. And in most history books on communications, a scant paragraph or footnote is generally devoted to the man who established the first regular television service in the United States and in the world. A man who forecast 42 years ago:

"The folks in California and Maine, and all the way in between, will be able to see the inauguration ceremonies of their President in Washington, the Army and Navy games on Franklin Field, and the struggle for supremacy in our own national sport, baseball." END

TV GUIDE



'That's so I can receive UHF.'