

Fixed Wireless History: The Bell System Inaugurates Radio-Telephone Service from Individual Subscribers' Homes in 1946 – The First Wireless Party Line in America

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This transcript was submitted courtesy of Dr. Richard Ling, whose grandfather was Paul K. Seyler of Mountain States Telephone and Telegraph Company, part of the Bell System. Mr. Seyler was lead engineer for this pioneering effort, a first in America, possibly in the world.

Although radio-telephony was not new in 1946, this represents perhaps the first time in the world that individual customers had radio-telephones installed at their premises. The far flung ranches the interview describes were so remote that running a telephone line to each of them would have been prohibitively expensive. A radio was far cheaper than a line made up of dozens of miles of copper wire, scores of utility poles, and the labor needed to build and then maintain it.

To make the equipment simple and to conserve frequencies each subscriber shared the same wireless link, thus creating a wireless party line. It is an entertaining and informative interview and I thank Richard for submitting it.

Dr. Ling is a sociologist with Telenor, the telephone company of Norway. He writes on the way people and society relate to wireless devices. His new book is *The Mobile Connection: The cell phone's impact on society*,

http://www.amazon.com/exec/obidos/tg/detail/-/1558609369/qid=1077214849/sr=1-1/ref=sr_1_1/104-4453113-2030318?v=glance&s=books

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NATIONAL BROADCASTING COMPANY, INC.

A SERVICE OF RADIO CORPORATION OF AMERICA

NBC BUILDING

DENVER 2, COLORADO

MAIN 6211

September 25, 1946

Enclosure to



Mr. Paul K. Seyler, Radio Engineer,
Mountain States Telephone & Telegraph Company,
931 Fourteenth Street,
Denver, Colorado.

My Dear Mr. Seyler:

We have the honor of attaching herewith, a copy of the script which Mr. Niles Trammell, president of the National Broadcasting Company, suggested we send you.

It is our sincere hope that this may prove an interesting souvenir of your appearance on the program inaugurating radio-telephone service at Cheyenne Wells.

Sincerely,


Lloyd E. Yoder
General Manager

LEY:m

KCA PROGRAM: INAUGURATION OF RADIO-
TELEPHONE SERVICE

DATE: TUESDAY, AUGUST 20, 1946

TIME: 9:30 - 10:00 PM MTN

BALLANCE: Good evening, everyone. This is Bill Ballance speaking to you by transcription from Cheyenne Wells in Southeastern Colorado. KOA engineer, Blair Dobbins, and I drove down here today for a very special reason, and that is inauguration by the Mountain States Telephone and Telegraph Company of radio telephone service for sparsely settled country areas. Just a few minutes ago we were very carefully briefed for our mission, namely a description of just how this rural party line service by radio actually works. Officials of the Mountain States Telephone and Telegraph Company have given us very elaborate maps of this area surrounding Cheyenne Wells, and in a short time, the caravan of cars carrying photographers and correspondents will all head for the farms which today will begin using, for the very first time commercially, this truly

amazing new radio telephone. When we arrive at the farms, the first of which is about 20 miles from here, we're going to interview for you the people who will be using these new devices. But first of all, several officials from the Mountain States Telephone and Telegraph Company -- Mr. Alex Ramneas of Denver, who is Colorado manager of the Mountain States Tel and Tel Company. Mr. Ramneas, how are you today?

RAMNEAS: I'm very well, thank you, Mr. Ballance.

BALLANCE: Enjoy your trip down here?

RAMNEAS: Very, very much.

BALLANCE: Sir, will you give us a little personal background on yourself? How long have you been with the company?

RAMNEAS: I've been 25 years in the telephone business, exclusively with Mountain States Tel and Tel Company.

BALLANCE: Thank you, sir. And now, what are your thoughts on the significance of this event?

RAMNEAS: Well, Mr. Ballance, we are here today to usher in a new era in the history of telephony -- a rural radio service. While radio is not unfamiliar to us in this installation, there is something added. Heretofore the service was limited to long distance -- in this we have added the local feature so that the subscribers to

this service will receive both local and long distance service. Cheyenne Wells is fortunate in getting the first installation of this kind in the world, and, as you know, it is really experimental, so before other installations are made, which will be in the far distant future, many ramifications will take place. No other installations are in the immediate offing.

BALLANCE: In other words, Mr. Rameas, the possible consumers -- or the possible users -- of this new telephonic device had better wait for at least a couple of years before they try to apply for this service. Is that true?

RAMBEAS: I doubt if it will be that long.

BALLANCE: Thank you very much. You've just heard Alex Rameas of Denver, the Colorado manager of the Mountain States Telephone and Telegraph Company. Next is Mr. Milton Bernet, Vice-president of the organization. How do you do, Mr. Bernet?

BERNET: How are you, Mr. Ballance?

BALLANCE: And how long have you been with the organization?

BERNET: I've been with the Bell System for 25 years, Mr. Ballance, of which 17 have been with the Mountain States, and eight with the Southwestern Bell in St. Louis.

BALLANCE: Mr. Bernet, have any similar experiments -- similar that is to this radio telephone device -- been conducted?

BERNET: By coincidence my old company, the Southwestern Bell, conducted an experiment in Jonesboro, Arkansas, just within the last year -- a rural power line carrier -- which I believe has more immediate possibilities for rural telephone service.

BALLANCE: This then -- today's event -- might be considered truly historic.

BERNET: Yes, Mr. Ballance. As Mr. Parnes said, this certainly is a historic event because it is the first time in the world that radio rural telephone service has been tried.

BALLANCE: Thank you, Mr. Milton Bernet, Vice-president of the Mountain States Telephone and Telegraph Company. And now, sitting off to my left here is Mr. Paul K. Seyler who is radio engineer of the Mountain States Organization. How are you this evening, Mr. Seyler?

SEYLER: Fine, thank you.

BALLANCE: How long have you been with the company?

SEYLER: Between 26 and 27 years.

BALLANCE: Sir, will you tell us some of the technical phases of the telephone. For instance, why was Cheyenne Wells

selected for this experiment?

SEYLER: Cheyenne Wells was selected by the Bell System for this experiment after considerable exploration, because the surrounding terrain is typical of the type of territory that we hope to serve with this new instrumentality.

BALLANCE: Is there much static on the line?

SEYLER: Very little static, Mr. Ballance.

BALLANCE: Is the transmission the line of sight?

SEYLER: Not necessarily. One or two of the farms are line of sight and one or two are not line of sight.

BALLANCE: Do you engineers of the Mountain States Tel and Tel expect to experiment in the mountains with radio telephones?

SEYLER: Yes, we have had that in mind for future work along this line.

BALLANCE: About how soon do you expect to start conducting those experiments?

SEYLER: We've done some thinking about it already, and we have some paper work done on the subject, but actual experiments will not be started immediately.

BALLANCE: On what frequency are these radio telephones operated?

SEYLER: We transmit from the central office to the farms on 44.2 megacycles.

BALLANCE: That sounds rather familiar. Isn't that about the same as the former F.M band?

SEYLER: Yes, that's just about in that band.

BALLANCE: What sort of antennas are used at the farms?

SEYLER: We use the vertical dipole coaxial antennas and J antennas -- J-type antennas, for those who are familiar with those terms.

BALLANCE: Would you tell us just how these calls are handled, Mr. Seyler?

SEYLER: The operator receives the signal at the switchboard in the same manner as from any other telephone in Cheyenne Wells. She calls the desired party by ringing their code which is two long rings, two short rings, and so forth. As on any ordinary party line, other parties may listen in to conversations on the line. It is also possible for any party on the line to call any other party on the line.

BALLANCE: Thank you very much, Mr. Paul K. Seyler, radio engineer of the Mountain States Tel and Tel Company. And next is Alfred H. Hall who is manager of the Mountain States Telephone and Telegraph Company here in Cheyenne Wells.

Could you tell us something about the local reaction to this experiment, Mr. Hall?

HALL: Well, Bill, I find that the people of this community are very much interested in this development and, of course, very happy that Cheyenne Wells has been chosen for the first in this new telephone development.

BALLANCE: And next we have Mr. Ray L. Horr, Assistant Vice-president of the Mountain States Telephone and Telegraph Company who is also chairman of the rural committee. Mr. Horr, we just heard a few minutes ago that your organization is going to give the local high school here at Cheyenne Wells a brand new gift. Will you tell us something about it, please?

HALL: Yes, Mr. Ballance. The school board of Cheyenne Wells kindly loaned us the high school manual training shop for our laboratory and work shop during the experimental period of this installation. In appreciation of this service, the Mountain States Telephone and Telegraph Company are presenting the school board with a loud speaker system.

BALLANCE: Thank you, Mr. Hall. Well, friends, already the somewhat dusty but enthusiastic safari from Denver has

started to move, so we're going to roll up our mike cords now and drive on to the ranch of the Cecil Blackwelders.

And here we are, speaking to you from the Blackwelder farm -- a very handsome farm about 21 miles south of Cheyenne Wells, Colorado -- and standing here off my right shoulder is Mr. Cecil Blackwelder, owner of the farm. First of all a brief description of Mr. Blackwelder. He stands about 5'8. He's wearing a Western hat -- large hat -- and whipcord pants, high-heeled boots. We're standing right next to his aircraft which he just flew in over our heads incidentally, leaving tire tracks on the top of the KOA truck. Mr. Blackwelder, how long have you lived here on this farm?

BLACKWELDER: I've been here for twelve years.

BALLANCE: And what is your principal crop?

BLACKWELDER: Wheat.

BALLANCE: And the size of your farm?

BLACKWELDER: 3,200 acres. Five sections.

BALLANCE: Five sections. That's considered a fairly good sized farm, isn't it?

BLACKWELDER: Well, medium.

BALLANCE I tell you ... I come from Illinois, Mr. Blackwelder, and 3,200 acres would take up about the southern half of the state. Mr. Blackwelder, I see two ladies standing over here. Will you tell us who they are, please?

BLACKWELDER: One is my wife, Mildred, and the other is Phyllis Jean, my daughter.

BALLANCE: Hello, Phyllis Jean.

PHYLLIS JEAN: Hello.

BALLANCE: Hello, Mildred.

MILDRED: Hello.

BALLANCE: How are you ladies today?

MILDRED: Just fine.

PHYLLIS JEAN: O.K.

BALLANCE: Ladies and gentlemen, Cecil Blackwelder, as I said, has this large aircraft here, an Aeronca -- is that the type?

BLACKWELDER: That's right.

BALLANCE: And he flies back and forth to town, but the most recent of his accomplishments is the setting up of this new radio telephone device. Mr. Blackwelder, could you tell us how this has affected your living --- how it's helped

you, please?

BLACKWELDER: It's helped me quite a bit in going to town to get repairs -- in finding out where they are before going.

BALLANCE: Have you had any emergencies arise whereby you've used this radio telephone and solved the problems that have come up?

BLACKWELDER: Yes, I've had calls in here -- at the present time we're not able to put long distance calls through on this . I have transferred some calls through the office for other people.

BALLANCE: Can you think of any specific instances?

BLACKWELDER: Last night there was a fellow that was on the place here. His wife was very ill in Eads, and they called me and I transferred the call to him.

BALLANCE: Well, that's fine. How long have you actually been using this radio telephone service?

BLACKWELDER: In the last week mostly where it's been in.

BALLANCE: Have you made any long distance phone calls yet?

BLACKWELDER: I made one to Denver today. It was an official call to Mr. L. L. Fritten.

BALLANCE: I see. Will you call the KOA news room --- KOA's number is MAin 6211 -- will you call us tomorrow afternoon or

evening and tell us exactly how it's working out and how you like the service?

BLACKWELDER: Yes, I will.

BALLANCE: That'll be fine. And now we're going to move over here to Mr. Blackwelder's wife, Mildred -- a very nice looking lady -- brunette, stands about 5'7, beautiful blue dress on -- standing here with her purse over her arm, she's just about to go into town for dinner. Is that right?

MILDRED: Yes.

BALLANCE: And how do you like this new radio telephone service?

MILDRED: Fine.

BALLANCE: Tell me this, just frankly. Do you listen in on the party line?

MILDRED: Who doesn't?

BALLANCE: I understand from some of the engineers in Cheyenne Wells that you're unable to talk back to the neighbors, is that true? That is, you can listen on the party line, but you can't relate any message yourself. Is that the way it works?

MILDRED: Yes.

BALLANCE: Has any emergency arisen in your own private life whereby the radio telephone has come to your aid?

MILDRED: We haven't had it in long enough yet, but I think it will later on, be a great help.

BALLANCE: Have you had a phone before -- a regular phone?

MILDRED: No.

BALLANCE: Do you fly this airplane we're standing beside?

MILDRED: No, just my husband.

BALLANCE: What are your hobbies?

MILDRED: Well, work mostly, I guess.

BALLANCE: Housework?

MILDRED: Yes.

BALLANCE: Do you have any other youngsters beside Phyllis?

MILDRED: No.

BALLANCE: And speaking of Phyllis, she's swinging on the ala rods over here -- I guess that's what they are -- will you step over here, please, Phyllis? This little girl is 14 -- dark haired -- dark eyed. She's wearing a green dress with a brass buckled belt, and are those saddle shoes, I guess, and anklets. What are your hobbies?

PHYLLIS JEAN: I collect salt and pepper shakers and play the piano.

BALLANCE: You do what?

PHYLLIS JEAN: I collect salt and pepper shakers.

BALLANCE: You collect salt and pepper shakers. Do you lift them out of restaurants maybe?

PHYLLIS JEAN: No.

BALLANCE: You don't.

PHYLLIS JEAN: I collect them out of different states.

BALLANCE: Do you send away to friends and ask them to send them to you? Is that the way you collect them?

PHYLLIS JEAN: No, I collect them mostly whenever we go on our trips.

BALLANCE: Have you been on any trips recently.

PHYLLIS JEAN: We went up to Canada.

BALLANCE: Just this summer, you mean?

PHYLLIS JEAN: Yes.

BALLANCE: What were you doing up there?

PHYLLIS JEAN: Looking around, I guess.

BALLANCE: Good enough. Was it a special occasion? Was your dad up there for some sort of a convention, or was it just a regular vacation?

PHYLLIS JEAN: It was just a regular vacation.

BALLANCE: How many salt and pepper shaker sets did you get up there, Phyllis?

PHYLLIS JEAN: Just one pair up there.

BALLANCE: Just one pair up there. Do you go in for antiques or any special design, or what's the principal aim of this

collection?

PHYLLIS JEAN: I don't know. I just started collecting them.

BALLANCE: You just like to do it. Are you a jitterbug?

PHYLLIS JEAN: No.

BALLANCE: You're not. Do you like to dance, tho'?

PHYLLIS JEAN: Yes.

BALLANCE: Do you have a beau? ... Well, do you? ... I assume that you do, judging by your slightly flushed face. Do you ride horse back around here. I thought I saw a few horses around here a few minutes ago.

PHYLLIS JEAN: I do once in awhile.

BALLANCE: Thank you very much, Phyllis Jean. Thank you, Mr. and Mrs. Blackwelder.

I'm going to try to summarize what's been going on around here today, both before and during this broadcast. For the first time any place on earth, rural radio telephone service was begun for eight families here in Southeastern Colorado. Their telephones were connected to the Cheyenne Wells switchboard of the Mountain States Telephone and Telegraph Company, so now these eight isolated families can reach any other tele-

phone anywhere. This is the absolute first use of radio telephone service and is being provided just on an experimental basis only, but under regular commercial conditions. Radio is one of several systems the rural organization is experimenting with now days in its program to extend phone service to another million farm homes within the next few years. The development may be of significance to families who want telephone service but who live in remote and sparsely settled areas where conditions are suitable for this type of service. Cheyenne Wells, Colorado, the center of the area selected for this experiment is about 18 miles from the Kansas border. The eight ranch families taking part in the trial live in widely separated locations, 11 to 21 miles from the town, and are not reached either by telephone or power lines. The power needed to operate the subscribers radio equipment is obtained from their home electric plants. Four of the ranches are being connected by direct radio links to the telephone central office in Cheyenne Wells. The other four are reached by comparatively short wire lines extending from one of the nearby ranches having radio telephone

equipment through which they are then connected with the main central office. Now by means of this radio and wire combination the telephones at these ranches are joined to form an eight station party line, terminating at the Cheyenne Wells switchboard just about like the usual rural lines do. Radio telephone equipment at each of the ranches includes a receiver, a transmitter, a telephone and two antennas. The transmitters have the power of about 10 watts. The receivers are inclosed in a small enclosed cabinet which can be located out of sight just like the Blackwelders is, with only the telephone instrument itself in view. The antennas are mounted on a pole on each of the ranch buildings. At the central office in Cheyenne Wells are transmitter and receiving apparatus needed to connect it into regular telephone system. The equipment operates on frequencies between 44 and 50 megacycles, as was told to us a few minutes ago by Mr. Hall. This happens to be about the same as the old F-M, or Frequency Modulation, frequency. To make a call, a subscriber moves a switch key on his telephone, sending a radio signal to the operator.

In all other respects, the subscriber uses the service in the normal manner. The operator handles the call practically the same as she does any other type. So that there will be no delay in gaining experience, the trial was run with modified gear originally designed for other purposes. The operating experience gained here in Colorado will probably -- in fact undoubtedly -- help Bell telephone laboratories develop standard radio telephone systems especially designed for this type of rural service. Well, that just about concludes an event really unusual and significant in American communications. We've had on our KOA mike this afternoon and this evening these officials of the Mountain States Telephone and Telegraph Company -- Alex Hammes, Colorado Manager; Milton Bernet, Vice-president; Paul Seyler, Radio Engineer; and Alfred Hall, Manager of the Cheyenne Wells Mountain States Telephone and Telegraph Company. We've also had, just now, representatives of one of the eight families using the radio telephone itself. Thanks to them and to official of the Mountain States Tel and Tel Company, we've been able to tell you all about this truly historic equipment developed by

the Bell Telephone Laboratories. This transcription you've been listening to was out by hard working KOA engineer Blair Dobbins. Your announcer has been Bill Ballance. This program came to you 165 miles east of Denver at Cheyenne Wells, Colorado. This is NBC, the National Broadcasting Company.