LIGHT BEAMS CARRY SOUND

Intricate Apparatus Demonstrated; Photophone Involves Old Ideas

ATLANTA, Ga.,—(AP)—An intricate apparatus which transmits sound over a beam of light has bee demonstrated here. The process is "narrow-casting."

The equipment, developed by John Bellamy Taylor, consulting engineer of the General Electric company, is a photophone, built on old principles, but utilizing the perfected photoelectric cell, electric pickup and newly developed amplifiers and sound reproducers.

Electrical energy is sent over the light beam to transposing and reproducing elements, mounted on a tripod some distance away.

Energy is led to a mirror, one thousandth of a square inch in area, suspended in a magnetic field by wires. The mirror, quivering in tune with the electric current, focuses the light by a lens into a narrow beam, which, pulsating at the frequency determined by music on a phonograph record, is projected through space to the light collecting mirror or lens of the receiver.

The mirror, or lens, condenses the light on the photoelectric cell, which responds to every variation in light intensity, and translates the light into elecric energy. This, after amplicafication, passes to a loud speaker, where the final sound transformation occurs.

The process differs from radio broadcosting in degree only. In the case of light, frequencies of several hundred trillion per second give wavelengths of the order of a fifty-thousandth of an inch, while broadcast waves are from 600 to 1,500 feet in length. The light waves will pass only in a straight line and through only such solids as are transparent, while broadcast waves will bend around obstructions and pass through walls.

Mr. Taylor is able to control the sound produced at will by passing his hand or any non-transparent solid in the path of the light beam. The lighting of a match produces a sound not unlike the rumble of thunder, while the varying light from a small dynamo-driven flashlight sounds like a siren.

Mr. Taylor has been able to pass a light beam during daytime across a street, and at night the beam may be projected three or four miles.

Night Policeman To Resume Work

SILVERTON, Ore., Nov. 14—(Special)—Webb Haskins, night policeman at Silverton, who has been ill with bronchial pneumonia for the past two weeks, is able to be about again and expects to be back at his job his week. J. Gibson is acting as night policeman during Mrs. Haskins' illness. Mr. Haskins was reelected constable of this district at the recent election.

Elmer was so fast that he could catch his own forward passes.

Gives Nation His Thanks

President-elect Herbert Clark Hoover, snapped before the microphone in the library of his home at Palo Alto, Cal. He is the first chief executive to broadcast his thanks to his followers after election.

Engineers Hold Changes Demanded by Television

NEW YORK.—(AP) — Belief that radio receiver manufacturers must heed the advent of television, "since it necessitates changes in conventional audio amplifier design," has been expressed by E. E. Hiler, radio engineer.

He said that the commercial success of television was contingent upon satisfactory results with receivers to which was added the image reproducing equipment. Good reproduction of an image, however, he added, was dependent upon the amplifying characteristics of the receiver.

"Detail or shading in a television image," he continued, "is governed by the amount of frequency distortion present in the system. Such distortion is of infinitely greater importance when receiving television signals than with voice, since it means loss af detail and shading.

"One television experimenter has been convinced that the audio amplifier used in television must possess a flat operating characteristic, since the transmitters employ audio amplifiers of this nature. As such, receiver manufacturers must design their audio equipment to conform with these requirements."

Portable Set is Trial to Police Seeking Air Tax

BUDAPEST—(AP) — Portable radio sets with no visible aerials are giving postoffice inspectors a new task.

To check up on persons who have not paid the annual radio tax, inspectors compare the positions of aerials with the list of licenses. This has proven most effective, except in the cases of evaders, who have portable sets with small aerials.

Because of the amount of suspected evasion, authorities are considering a plan by which retailers selling portable sets would supply the postoffice with the names and addresses of purchasers.

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RADIO ORDER LIMITS TIME

Western Stations Are Not Restricted by Change In Net Service

WASHINGTON.—(AP)—While regional stations are not affected by the order of the federal radio commission restricting the simultaneous broadcasting of identical chain programs, time division has resulted in the curtailment of the network service of some stations.

The extent to which limitation of time on he air has restricted individual stations is yet to be determined. It will depend on the number of hours of operation and the attitude of the network sysems towards broadcasters whose time is curtailed. Many broadcasters, however, who have been assigned to regional channels without time division, regard their situation as preferable to some of the clear channel stations hit by the chain restriction or the time shatring order.

With one exception, eastern regional stations associated with the National broadcasting system will be able to broadcast chain programs without any restriction. WFI, Philadelphia, will share time with WLIT, Philadelphia. Regional stations in the east which can broadcast NBC programs without time division handicap are WGR, Buffalo; WEEI, Boston; WJAR, Providence; WTAG, Worcester; WCSH, Portland; WRC, Washington, and WCAE, Pittsburgh.

In the far west also, all regional NBC stations will operate full time. They are KGW, Portland; KOMO, Seattle; and KHQ, Spokane.

HOMECOMING PLANNED

SILVERTON, Ore., Nov. 13—(Spl)—Homecoming services will be held next Sunday at the First Christian church, with the Rev. Albyn Esson, former pastor, in the pulpit. Special music has been arranged.

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WEDNESDAY MORNING

6:00-9:00—KXL (240). Courtesy and household programs.
6:45-7:45—KEX (254). Orchestra and health exercises.
7:15-7:30—KGW (484). Health exercises.
7:45—KEX. News items.
8:00-9:00—KGW, NBC. "Happy" hour.
8:00-10:00—KWJJ. (283). Concert.
9:00-9:45—KXL. Portland Early Birds.
9:00-16:00—KEX. "Better Homes" hour.
9:00-10:30—KTBR (231). Women's program.
9:00-12:00—KWBS (200). Housewife's hour.
9:40-12:00—KOIN (319). Housewife's program and town topics.
9:45-12:00—KXL. Home economics and music.
10:00-11:00—KWJJ. Birthday hour.
10:00-11:00—KFEC (219). Request program.
10:00-12:00—KEX. Devotional services, shopping guide and news items.
10:00-12:00—KGW. Household helps, NBC program and music.
11:00-12:00—KFEC. Talks and music.
11:00-12:00—KWJJ. Concert.

WEDNESDAY AFTERNOON

12:00-1:00—KFEC. Studio concert.
12:00-12:30—KOIN. Farm program.
12:00-1:00—KEX. Little Symphony orchestra.
12:00-1:00—KGW. Luncheon concert.
12:00-6:00—KXL. Afternoon presentations.
12:00-6:00—KWJJ. Music.
1:00-1:15—KOIN. Farm service.
1:00-1:30—KEX. Song recital.
1:00-2:00—KFEC. Luncheon concert.
1:30-2:30—KEX. Concert ensemble.
2:00-3:00—KEX. Little Symphony.
2:30-5:00—KTBR. Music.
3:00-End—KFIF (229). Interscholastic football game from Multnomah stadium.
3:00-3:30—KFEC. Pipe organ concert.
3:00-4:00—KOIN. News and music.
3:30-4:00—KEX. Song recital.
3:30-4:00—KFEC. Varied program.

WEDNESDAY NIGHT

4:00-4:20—KFEC. Elementary Spanish lesson.
4:00-4:30—KEX. Concert ensemble.
4:30-5:00—KFEC. Semi-classical music.
4:30-5:00—KEX. Santa Claus.
5:00-5:30—KGW. French lesson.
5:00-6:00—KFEC. Popular music.
5:15-6:00—KOIN. Topsy-Turvy times.
5:30-6:00—KGW. Children's program.
6:00-6:30—KGW (484). Movie talk and music.
6:00-7:00—KOIN (319). Organ concert.
6:00-7:00—KTBR (231). Dinner concert.
6:00-7:00—KFEC (219). Symphonic music and (6:45) New York stock quotations.
6:00-7:00—KWBS (200). Semi-classical music.
6:30-7:00—KGW. Concert trio.
7:00—KFEC. Utility.
7:00-7:30—KGW. "Tin Pan Alley" NBC.
7:00-8:00—KWBS. Popular music.
7:00-8:00—KXL. Courtesy program.
7:00-8:00—KOIN. Orchestra.
7:30-8:30—KGW. Concert trio.
8:00-8:30—KOIN. String orchestra.
8:00-8:30—KGW. "Oregon History."
8:00-8:30—KXL. Orchestra.
8:00-9:00—KEX. ABC feature.
8:00-10:00—KWBS. Studio program.
8:30-9:00—KOIN. Studio program.
8:30-9:00—KXL. Studio features.
9:00-10:00—KEX. Salon orchestra.
9:00-9:30—KGW "Romance" (NBC.)
9:30-10:00—KOIN. Studio program.
9:30-10:00—KGW. Studio music.
10:00-11:00—KWBS. Request hour.
10:00-11:00—KXL. Orchestra.
10:00-11:30—KOIN. Dance orchestra.
10:00-12:00—KGW. NBC dance music.
10:00-12:00—KEX. Dance frolic weather and police reports.
11:00-1:00—KXL. Entertainments.

NBC—8-9 "Happy" hour; 10:30-11, "Women's magazine"; 7-7:30, Tin Pan Alley"; 7:30-8, Gayeties; 8:30 'Fuor Gladiators'; 9, Travelog; 10-12, Troubadours dance orchestra.

KGO—Oakland (380), 6, concert; 6:30 Rembrandt trio; 7, agricultural; 7:30, 8, Parisian quintet; 9:30, NBC; 9:30, concert; 10, PWN.

KNX—Los Angeles (286) 6, Players' club; 9:30, string quartet; 7, 7:30, feature; 8, Alrodians; 8:30 feature; 8:30, feature; 10-12, dance orchestra; 12-1, Cotton club.

KYA—San Francisco (270), 6, news; 6:15, Crier; 7, 8, semi-classical; 8:30, frolic; 9, 10-12, dance orchestra.

KJR—Seattle (309), 6, ensemble; 7, salon orchestra; 8, Hawaiian Sunshine hour; 9, ABC salon orchestra; 10-12, Vic Meyer's dance orchestra.

KPO—San Francisco (441), 6, music; 7-7:30, NBC; 8-8:30, NBC; 9:30-10, dance band; 11, NBC.

KFI—Los Angeles (468), 6, music box; 7-7:30, NBC; 8-8:30, NBC; 9:30-10, dance band; 11, NBC.

KFI—Los Angeles (468), 6, music box; 7, "Hot Spot"; 7:30, NBC; 8, gramophonette; 9:30, variety; 10-11, NBC.

KFRC—San Francisco (492), 6, orchestra; 7, orchestra; 7:30, 8, piano; 9, 10-12, dance orchestra.

KHQ—Spokane (508), 6, service hour; 6:30, dinner concert; 7, Dough Boys; 8, 8:30, NBC; 9:30, program.

KFWB—Hollywood (316), 6, quintet; 7, quartet; 8, music; 9, orchestra; 10, dance orchestra; 11, timely topics.

KFOA—Seattle (236), 6, 6:30, radio hour; 7:30, 8, news; 8:15, movie club; 8:30, Skipper's log; 8:45-9:30 movie notes.

KOMO—Seattle (226), 6-8, orchestra; 8, KGW; 8:30, NBC; 9:30, music; 10:30, news and music; 11-12:30, duets and solos.

ENTERTAIN PORTLANDER

HUBBARD, Ore., Nov. 13—(Special)—Mr and Mrs. William Dick gave a dinner in honor of W. Allen of Portland, who spent Armistice day with them. Mr. Dick clerks in a grocery store in Sellwood and Mrs. Dick has charge of the second grade in the Hubbard public schools.

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