audio record

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OPERATION CROSSROADS RECORDED

A-Bomb Correspondents aboard the destroyer TOFFEY off Bikini. (Top Row L to R) Lt. Wyman Riley, public relations; Fred Opper, ABC; Elton Fay, AP; Frank Allen, INS; Ralph H. Peterson, NBC; Don Bell, Mutual; Jos. Myler, UP; Don Mozley, CBS; (Lower Row L to R) V. Adm. W. H. P. Blandy, Comdr. Joint Task Force; Capt. C. H. Lyman, operations officer; Capt. W.C.Winn, Asst. operations officer; and unidentified navy chief quartermaster; Comdr. O. D. Waters, skipper of the TOFFEY. *Photo courtesy Broadcasting*

Complete Radio Coverage of Bikini Atom Tests Made Possible With Recording—Networks Say

The value of recording to radio in presenting the greatest "special event" in its history, the dropping of the world's fourth atomic bomb off Bikini Atoll, Sunday, June 30, was divulged recently to Audio Record by representatives of all four major networks.

As one network chieftain put it: "Recording was virtually a 'must' to radio because the various time changes and schedule arrangements often made it impossible to bring in 'live' our correspondents in the Pacific." Another chain official was in agreement saying: "The problem of atmospherics had to be considered carefully, making it far safer to pick up our men at Bikini whenever these atmospherics permitted the most suitable reception." "And then to," pointed out a third web representative, "recording made it possible for us to present our correspondent's views at a time most convenient to our thousands of listeners."

(Continued on Page 4)

Disc Tragedy

After selling a big show to a sponsor, one of the networks, believing that they could improve upon the audition disc, decided to alter the program here and there . . .

Later, at a gala celebration party at the Waldorf, a recording of the show was put on to entertain the sponsor. As the disc began and the revised edition of his purchase met his ears, the angered sponsor rose to his feet and shouted: "Did I buy that show? Cancel the deal right away!"

Atom Test Preparations Recorded by Coast Outlet

Land, Sea and Air Recordings Made; Many Technical Problems Encountered

One of the most interesting technically, and exciting of all radio broadcast station operations is the special events division. Fire, floods, wrecks, parades, sports—all jam into this classification. But the one to end them all probably was the recently-completed 15,000 mile trip by the special events department of KSFO and the Universal Broadcasting Company of San Francisco to the Marshall Islands, some 5,000 miles out in the Pacific, for a program giving a preview to the atom-bomb tests.

To provide not only a glimpse of the preliminary work being done for the atom-bomb tests, but also word pictures of the site of the test and other neighboring Marshall Islands, the natives, their customs and activities, and their reactions to the preparations being made, it was decided to make on-the-spot recordings.

With this in mind, our special events department received permission from Joint Task Force One to proceed to the Bikini area to make recordings of these preliminaries attendant to the atom-bomb tests. The crew of three was made up of: Ray V. Hamilton, executive vice president; Austin Fenger, West Coast radio reporter; and the writer.

It was the intent of the operation to take this basic program material recorded on locale, and then fly them back to our main studios in San Francisco. These recordings were to be assembled, some voicing added where necessary for station and commercial tie-ins, timed, and duplicate recordings cut from the master assemblage. They were then shipped via air to nearly 100 stations scattered all over the United States, who were subscribers to a series of 15 programs. While such a system has been applied before this was probably the largest and longest of its type.

It was expected that all kinds of engineering problems would be encount-

(Continued on Page 3)

Tom Slater presented with Headliner's Award for 1946 by Warren B. Francis, Pres. Elect of Natl. Press Club of Washington, D. C. Presentation was made recently at Atlantic City.

Special Award to Slater For Radar-Moon Broadcast

Audiodisc Recorded Feature Voted Best "Special Events Broadcast" of Year

The 1946 National Headliners' Club Award "for the best special events broadcast of the year" has been won by Tom Slater, director of special events for Mutual, in connection with the Mutual network broadcast of the Army experiments in which radar contact was established with the moon.

The citation to Slater was one of the 20 prized Headliner Awards, plus a special citation, which were announced recently at national headquarters. The awards, given annually in the field of press, radio and photography, were presented at a dinner in Atlantic City, on Saturday, June 22.

The MBS broadcast of radar contact with our lunar satellite originated in the Army laboratories at Belmar, N. J., and included the actual sound of the radar impluses as they were sped on their way to the target, some 240,000 miles distant, and the sound of the return echo approximately two-and-one-half seconds later. The broadcast also included interviews with Col. Victor A. Conrad, commanding officer of the Signal Corps Engineering Laboratories at Bradley Beach, and Lt. Col. John H. DeWitt, Jr., the officer under whose guidance the experiments were conducted.

The program was presented over Mutual on Sunday, Jan. 27, and was emceed by Mr. Slater. Through his efforts, a master recording of the broadcast is being presented by Audio Devices, Inc., to

(Continued on Page 4)

Audiodiscs Serve KDTH In Reporting Holocaust

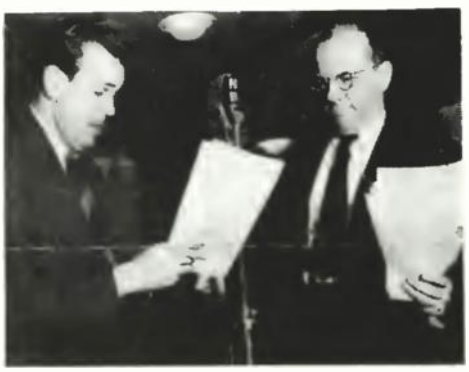
Iowa Station Commended by Nation; Recorded Coverage of Fire Excellent

Station KDTH—Dubuque, Iowa, now places more emphasis than ever before on its recording department, especially since the news "beat" which was scored when Dubuque's Hotel Canfield burned to the ground last June 9th, killing twenty of the one hundred twenty-nine guests. (It was the second major hotel disaster in a week following the Chicago Hotel La Salle fire.)

After being alerted within a short time after the alarm was turned in, George Freund, KDTH News Editor and Bob Gribben, studio recording engineer, arrived on the scene with the station's portable recording unit and a supply of Audiodiscs ready to go to work. An on-the-spot, factual description of the fire was recorded and rushed to the transmitter which went back on the air at 2:40 A.M. to begin coverage of the hotel holocaust.

The station's 1000 watt transmitter gave across-country coverage through the use of the Audiodisc recording and supplied service equal to network coverage without the aid of a network.

Letters congratulating the station for putting its transmitter back on the air with the early and factual news report have poured into KDTH from distant cities throughout the entire country.



THE HAUNTING HOUR, an NBC Recorded program, features 52 half-hour dramatizations of original mystery stories written by radio's leading writers. The cast includes such prominent stars of radio, stage and screen as Berry Kroeger, Betty Furness, Frank Lovejoy, Neill O'Malley (right above), Michael Fitzmaurice (left above), and many other equally well-known personalities. THE HAUNTING HOUR satisfy's every listener's taste for mystery. It takes a panoramic view of the entire mystery field, and during the series every type of "creeper" is included . . . detective stories, psychological studies, tales of excitement and intrigue, steries of the supernatural and all other categeries of mystery. Heard on stations throughout the United States and Canada, THE HAUNTING HOUR is produced by the NBC Radio-Recording Division.

disc·data for the Recordist

By Ernest W. Franck, Research Engineer

Enlarged View of Recording

The small dimensions of grooves and recording and playback points are always a handicap when one tries to visualize the exact mechanics of disc recording. It is thus helpful to imagine all dimensions increased to the size of something familiar in every day life.

Ernest W. Franck

Let's take a reproducing stylus and imagine the tip enlarged to the size of a pencil eraser. The eraser end of a pencil is a good choice since its tip will be roughly sperical just as the end of a playback stylus. The pencil eraser is about fifty times the size of a playback point.

Now we can imagine a reproducing point the size of a pencil eraser being guided along a groove. We have a close approximation to actual conditions if we further imagine that this groove was made with a recording point slightly smaller than a pencil eraser, so that tangential contact of the playback point is made at the sides and slides along without touching the bottom of the groove at all. Even with this great enlargement, the depth of the groove would be only slightly more than one-tenth of an inch.

Now for the speed—and here is where our enlargement is helpful. The grooves of a typical transcription run about 100 feet per minute (12" diameter at 33-1/3 R.P.M.). Multiply this by our factor of 50 and we find our eraser size point travelling along the grooves at a rate of 5,000 feet or nearly a mile a minute.

When we get used to this speed, we can modulate the groove and we find how busy a life the playback stylus leads. A groove fully modulated at 400 cycles per second is twisting back and forth five times every foot. The total amount of this weaving approximates the full width of the groove. The forward visibility from the tip of the stylus is about 2½ inches. Imagine travelling along at a mile a minute and not being able to see 3 inches ahead! At higher frequencies the turns will be sharper but will swing less. A 4,000 cycle groove will bend twice in ¼ inches, even at this fifty times enlargement.

Selecting and Training Recordists

by John E. Holmes
Supervisor of Recording, NBC—New York

(This is the second in a series of articles by leading figures in the recording field.)

The training of personnel in the engineering department of the Radio-Recording Division of the National Broadcasting Co., Inc., must be divided into several catagories.

In New York the engineering department of the Radio Recording Division has its own group of studio engineers who "ride gain" only on shows and musical productions for recording. There is a field group that do recordings with portable units. There is a group that is responsible for the electrical and mechanical maintenance of the complete recording plant. The final group, and that group whose training we will discuss is the recording operating group, the people who are responsible for the finished product.

John E. Holmes

The recording art in all of its detail is very highly specialized. Consequently there are few engineers available with an adequate background in this art. During the recent war there were no engineers available for the expanding recording department at N.B.C. It was during this period that women were first employed. It was the experience of the National Broadcasting Co. that the women thus employed in the recording department did a very satisfactory job.

The problem that first has to be met is to choose the proper type of person from among all people interviewed. It was found that it is best to find people whose background is somehow related and whose aptitudes can be adapted to the recording work. A real interest in recording is a prime requisite—for through experience we have learned that a person with the type of mind that can segregate and actively think of several jobs at once is particularly valuable.

The first step is to introduce the new employee to every type of recording unit and to acquaint him with the standardized methods of handling each. The second step is the familiarization with recording stylus and its particular function. Of course every possible fault of the stylus is taught and the instant recognition of these faults and their cure is very important. The next step is the basic electro-mechanical function of the recording head. The limitations and variations of the recording head is taught in easy stages as there are many specialized cases involved. The choosing and inspection of the recording blanks in all of its possible combinations is the next step.

(Continued on Page 4)

More than one thousand 17¼" Master Audiodiscs being rushed from La Guardia Airport to Los Angeles for the Armed Forces Radio Service. Millions of radio listeners in this country know about the work of AFRS through the now familiar announcement: "This program is being broadcast to our armed forces overseas through the world wide facilities of the Armed Forces Radio Service."

Recording Invaluable to Carnegie Drama Class

Speech Professor Praises Audiodiscs; Terms Them "Accurate Mirrors of Sound"

Each student in the Drama Department's Voice and Speech classes at Carnegie Institute of Technology, Pittsburg, Pa., makes an Audiodisc recording of his or her voice at the very beginning of the Freshman year. "And, after the individual's errors in this recording have been analyzed by his instructor," writes Miss Edith Warman Skinner, Assistant Professor of Speech, "corrective procedures are immediately prescribed."

Two Carnegie Tech. drama students check a recent Audiodisc recording.

"At the conclusion of the first year of study," continues Miss Skinner, "the student makes another recording—permitting his improvement to be conveniently and accurately gauged. This procedure is followed in the Sophmore year. The Junior year recording, however, is made of the ten or more dialects studied.

"Perhaps you would be interested in knowing," Miss Skinner relates, "that William Eythe, the M.G.M. movie star

(Continued on Page 4)

Atom Test Preparations Recorded by Coast Outlet

(Continued from Page 1)

ered on a trip of this nature and they were.

Much experience had been accumulated on a recent, similar-style trip to Hilo, Hawaii to cover the disastrous tidal wave which struck there. Thus we had a working knowledge of the type of equipment that might be needed. Applying this information we decided to take along three 6-volt storage batteries, a 350-watt rotary converter with adjustable speed control, a portable disc recorder (112-line feed), standard dynamic microphones, special audio amplifiers, filters, recording discs, etc. Total weight was approximately 500 pounds.

Among the problems we encountered were those caused by climatic conditions and excessive vibration in planes. Because of high temperature, recording levels had to be decreased by approximately 12 to 16 vu due to the recording head damping, thinning, and softening of the disc materials. Equipment had to be continually wiped and oiled, microphones protected from the moisture by Protec-Sorb bags, equipment cases kept dry by burning light globes in them, microphone cable plugs enclosed in sacks made of parachute silk, the recorder slung in a cradle of rubber exerciser cord to overcome plane vibration, high-pass filters used to reduce motor roar, and an advance ball used to keep the recorder head from skipping due to excessive vibration. The crew isn't joking when they say, "The equipment will be lighter, next trip"!

(From a paper prepared by Allan Kees, Chief of Audio Facilities, Station KSFO and Universal Broadcasting System—San Francisco for the July, 1946 issue of COMMUNICATIONS.)

Recording Helps In Atom Coverage

(Continued from Page 1)

During the week preceding the actual dropping of the bomb on the seventy-three ships jampacked in the Bikini lagoon, three of the principal chains aired many special broadcasts from the "Operation Crossroads" area. ABC, CBS and Mutual brought in their correspondents at regular intervals with the latest developments in the preparation for the "big show". All of these programs as well as special news bulletins from the Bikini area were recorded.

"This Week Around the World", a program devoted exclusively to the atom test, was presented by American Broadcasting Company on Sundays, June 23 and 30th. "Headline Edition", another atomic bomb feature with Pacific pick-ups was aired by the same net on Friday preceding the test. Mutual presented a special pool show entitled "Eve of the Atom Test" on Saturday, June 29 from 11:30 to 12:00 PMEDST featuring Secretaries Patterson and Forrestal, Generals Eisenhower and Spaatz, Vice Admiral Blandy and Admiral Nimitz. This program was recorded from the NBC Control Room in New York earlier in the evening.

On Sunday, June 30, Able-day at Bikini, American carried a special program at 12:30 PMEDST on which all ABC correspondents were heard. At 3:10, the same net aired the actual take-off of "Dave's Dream" for the target area. Later, on its National Hour, NBC presented Admiral Blandy from the Pacific from 4:00 to 4:30 PMEDST. The pool broadcast which was presented "live" over all networks, with Bill Downs, ace CBS correspondent on the scene, at 6:00 PMEDST, was rebroadcast by ABC at 11:15 Sunday evening. NBC's San Francisco outlet, KPO, also carried a rebroadcast of the event for its west cost audience.

When the stage is set for the dropping of the second bomb, net chiefs agree that they will again rely heavily on recording for radio's coverage of this history-making experiment.

Selecting-Training Recordists

(Continued from Page 3)

The normal training period is three months. During this time the new operator works with experienced personnel on the normal day-time shift. The supervisor in charge works with him or assign him to work with an "old" hand. At the end of the three month period the operator is allowed to do a little more of the actual work each day until such a time that complete confidence is gained. Usually a man is able to stand watch by the end of the sixth month and from there he learns that there is still much to learn about the art.

Recording Invaluable To Carnegie Drama Class

(Continued from Page 3)

and a former graduate of our Drama Department, told me some months ago that he played the first discs used in his speech classes and checked them with a recording of one of his recent movies. He said he had many laughs over his 'first talking pictures'.

"Our students," the professor concludes, "are fully aware of the invaluable aid of the Audiodisc in the study of Voice and Speech. It is possibly the actor's most important tool in the theatre for it makes a true and accurate mirror of sound."

Special Award To Slater For Radar-Moon Broadcast

(Continued from Page 2)

the Script and Transcription Exchange and by midsummer pressings will be available for free loan distribution. It is interesting to note that the Hayden Planetarium, New York City, earlier this year announced that a recording of the program would be played at regular intervals in their auditorium for a period of one month. Actually the time had to be extended a second month to meet popular demands. (Audio Record readers will recall that a full account of this historic event which was recorded on an Audiodisc appeared in our March Issue.)