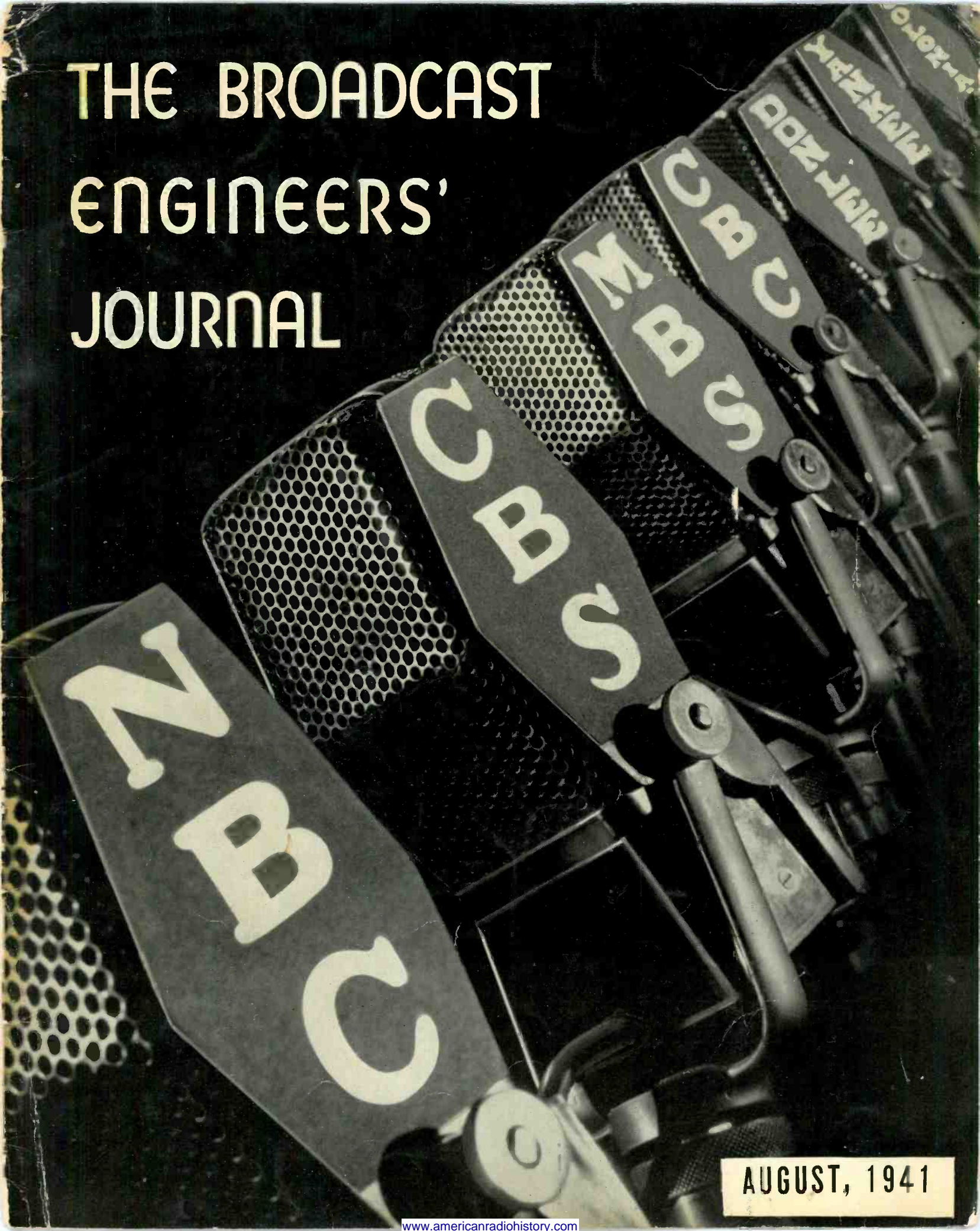


THE BROADCAST ENGINEERS' JOURNAL



AUGUST, 1941



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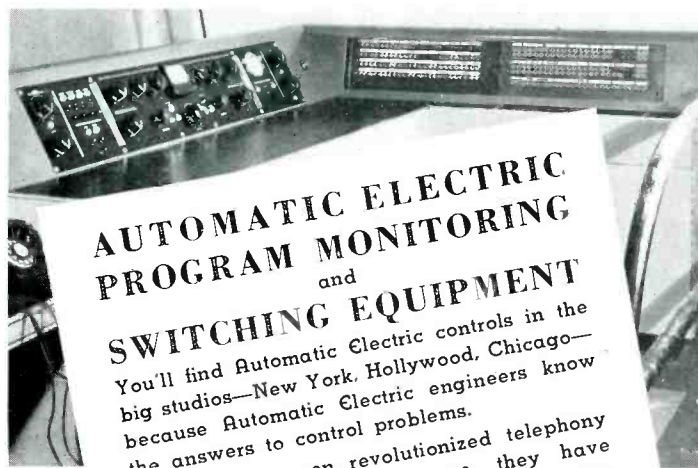
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JOURNAL

DIRECTED TO BROADCAST ENGINEERS AND EXECUTIVES

This Familiar Cover Makes Its Last Bow as We Take Another Step in Our Steady Progress and Announce a Change of Name and Cover Design

A new name and a new cover design climax eight consecutive years of steady progress. Because many of our contacts and business associates in the Industry had, for some time past, been deleting the enigmatic "A.T.E." and just referred to us as the "Journal", it was logical to construct a new self-explanatory title around the already abbreviated "Journal". Since we are **Ot. By. and For the Broadcast Engineer**, and our circulation is concentrated on and directed to Broadcast Engineers and Executives, possible alternative titles gave way to **The Broadcast Engineers' Journal** as truly indicative and self-explanatory of purpose and circulation.

A change in cover design was purposely timed to coincide with our change of name. Our new cover design was evolved along with the new name, and symbolically portrays our impartiality and universality of circulation and service among all the Networks and all the Independents alike. Our cover design at once symbolizes the competitive independence of American Broadcasters and their spontaneous cooperation as a unit when a national event and/or the public interest warrant. For our symbolic purpose, no attempt was made to represent the myriad types and shapes of broadcast microphones nor the equally numerous styles of broadcasters' signs that grace and identify their microphones.

We take this opportunity to express our appreciation for our many readers' suggestions which led to our new name, and especially to our Staff Photographer, Joe Conn, for the fine craftsmanship exemplified on our cover.

ED. STOLZENBERGER, Editor.

NOW—The Broadcast Engineers' Journal

Civilian Automatic Radio Alert System

By Ed Stolzenberger

(This system fills a long felt need for a method of calling to attention the entire American listening public when circumstances warrant.—Editor.)

NEW YORK'S Mayor LaGuardia, participating as National Director of Civilian Defense, and David Sarnoff, President of the Radio Corporation of America, recently demonstrated the new RCA automatic radio alert system, which, by means of a bell, light, or other alarm device, will summon the listeners to standby for an impending important announcement.

The Alert Receiver is a simple instrument about the size and cost of a portable radio set, and uses three tubes. It is designed to operate on AC, DC, or batteries—which makes it independent of the local power lines, an important factor in time of flood or other emergency. The receiver can be fixed-tuned to any broadcast station. It is then receptive to the "alert" signal, which, for purposes of demonstration consisted of 24 cycle modulation for the "ON" signal, and 30 cycle modulation for the "OFF" or all-clear signal. The Alert Receiver contains its own loud speaker which is normally disconnected. When the "ON" signal is broadcast, a relay in the Alert Receiver connects the loud speaker and makes it operative; simultaneously, bells, lights, and other attention-getters attract the listeners to insure the most widespread dissemination of the urgent message about to be broadcast. Widespread application of the Alert system in the Civilian Defense cause is assured, since RCA patent licenses granted to manufacturers include licenses to build the Alert Receiver. And as a further contribution, RCA is making the complete specifications available to other manufacturers and broadcasting stations.

At the station broadcasting the "Alert" signal, it is not even necessary to interrupt the broadcast program in progress or to make any changes in wiring. The transmitter Alert equipment consists only of a vacuum tube oscillator which generates the two fre-

quencies of 24 and 30 cycles respectively. These are merely patched to the speech input of the transmitter, like any microphone.

Messrs LaGuardia and Sarnoff briefly discussed the possibilities of this device to a nation-wide audience via the NBC Blue network. Its maximum usefulness would be in the future, when Alert re-

ceivers are likely to be located throughout the country. It was pointed out that existing radio and television receivers could be equipped with the Alert receiving device. The simplicity of the equipment and operation makes it safe to predict that in the not too distant future, radio sets from coast to coast will be equipped with this device to summon listeners when an important message, news item, or television event is about to be broadcast. On the more serious side, a great public service could be rendered by the Alert system in time of flood, fire, earthquake, storms, and in the field of inter-state police work.



Messrs. Sarnoff and LaGuardia discuss the possibilities of the Radio Alert System

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To illustrate the practicability of the Alert system, word that mythical "enemy" planes had been sighted over Long Island was relayed from Army

officers at Mitchel Field to a Civilian Defense Officer in an NBC studio at Radio City, who in turn pressed the button that applied the Alert signal to WJZ's carrier wave. Within a few seconds, the Mayor's Alert Receiver in the Administration Building at LaGuardia Airport was automatically turned on. Alarm lights and bell indicated that the

nation-wide Blue Network was standing by for any message he might have as Director of Civilian Defense. Messrs LaGuardia and Sarnoff followed with a discussion of the Alert system's possibilities and applications. The obvious advantage of this Alert system is its immediate applicability to existing highly developed transcontinental broadcast network systems. In time of disaster, the problem is to communicate with all persons in the affected area simultaneously and instantly. This, of course, would be impractical to accomplish by telephone, telegraph, or by radio broadcasting since, up to now, there has been no way of suddenly calling all to listen. The Alert system is designed to effectively, efficiently, and economically solve that problem.

The NA-12 Automatic Interpolator

By Erick B. Berglund

National Broadcasting Company, Audio Facilities Engineering, New York

IN RECENT issues of the Journal, we have seen articles describing the Motor Operated Fader and the Electronic Fader which are in use in the New York and Washington studios, respectively. Now to add to the list of faders, we introduce the NA-12 Automatic Interpolator which has been installed in the New York studios.

This Automatic Interpolator is an electronic unit designed to reduce to background level, any program requiring interpolations by a local commentator. The fading occurs when said commentator operates a non-locking key switch, which drops the nemo or foreign program level a definite amount (13, 18 or 23 db) and simultaneously "fades in" his local microphone. During the time that the commentator is on the air, the nemo program may be heard in the background. When he has finished his comments, release of the key switch restores the original program to normal level.

Use of the NA-12 eliminates the

difficulties involved with manual fading to split second accuracy where programs, speeches in a foreign language, for example, require fade-out for local comments or translations. Such a con-

dition requires close attention to the commentator's cues or gestures and, during the usual unrehearsed foreign program, may result in fades being made too early or too late. It was obvious that perfect synchronization could only be obtained if the fading function was under the direct control of the commentator and for this reason the NA-12 was developed.

The unit is designed to operate with an incoming nemo level of -32 vu and an outgoing nemo level of -16 vu. It has a nominal gain of 24 db which normally is set at 16 db by means of a screw-driver control potentiometer. This NA-12 is arranged for mounting on a 19" speech equipment rack. Input and output jacks for both nemo and interpolator circuits, plate current jacks, input volume control, background level control, and recovery time control are all mounted on the front panel. All other parts are mounted on a metal chassis, 17" x 8" x 3" deep. The two metal radiotrons and the relay are shock

age, 180 volts D C at 12 m a; heater voltage, 14 volts D C at .3 amp; signal battery, 14 volts D C. at 70 m a; "C" battery, 37½ volts.

Radiotrons—First stage, (1) RCA-6SJ7 (Non-Microphonic); second stage, (1) RCA-6SK7 (Non-Microphonic).

Input Impedance—500 ohms normal. May be re-connected for 250 ohms.

Output Impedance—200 ohms normal. May be re-connected for 500 ohms.

Overall Gain—24 db. (Normally set at 16 db gain.)

Frequency Response—±1 db from 60 to 10,000 c p s.

Background Level Control—13, 18 or 23 db gain reduction in steps. May be adjusted for other convenient values.

Decay time—One-half second.

Recovery time—One-half to two seconds adjustable.

Harmonic Distortion—Less than .4% at -16 v u output and 1,000 c p s.

Noise Level. -70 v u below program level. (Zero v u = .001 watt across 600 ohms.)

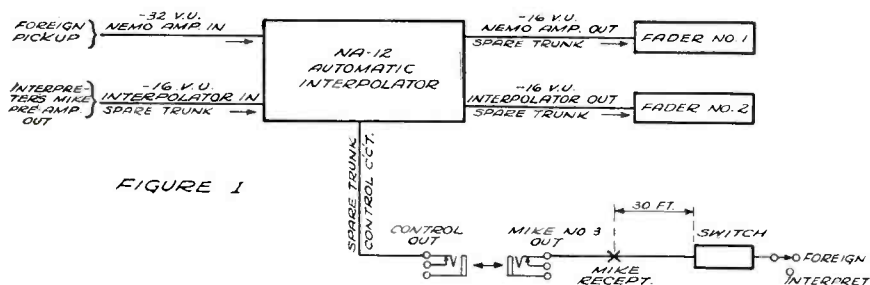
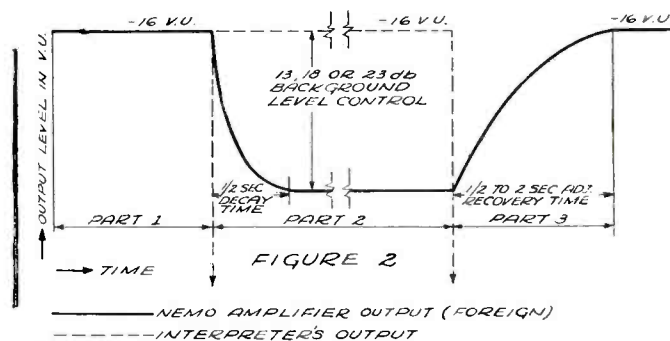


FIGURE 1

BLOCK DIAGRAM SHOWING THE NA-12 PATCHED INTO TWO FADERS OF A MIXER AND THE CONTROL CIRCUIT SETUP



Curves showing output levels of NA-12 plotted against time

mounted to reduce microphonics. Connection terminals are located on a bakelite strip at the rear.

Specifications

Power Supply Required—Plate volt-

Panel Size—8¾" x 19".

Installation

The block diagram, figure 1, shows how the NA-12 may be patched into any studio into which four pairs of

spare trunks are available. In the New York installation, the unit is mounted at the Master Control Room Test Board, so it may be used with any studio. A thirty foot microphone cable with the switching box attached to one end can then be plugged into a spare microphone outlet in that studio. This switch is available for the interpreter's use.

Operation

Figure 2 shows how the output levels of the NA-12 vary with time during a complete switching cycle which may be divided into three parts, as follows:

PART 1. When the Key Switch is in the *Foreign* position its associated relay connects the nemo program through the NA-12 and into Fader No. 1 at normal level (-16 v u). While the Key Switch is in this same position, the NA-12 operates as a normal amplifier. During this period the relay also keeps open the interpreter's circuit to Fader No. 2.

PART 2. When the Key Switch is shifted to the *Interpret* position and held, the level of the nemo program is faded down a definite amount. A selector switch located on the front of the NA-12 and engraved **BACKGROUND LEVEL CONTROL** selects the gain reduction in decibels in steps of 13, 18 or 23 db. The best setting should be determined by experiment and fixed. The time of the fade is fixed at one-half second.

During this switching process the relay operates to close the interpreter's circuit through to Fader No. 2. Thus, while the interpreter speaks, his voice is transmitted at normal level through Fader No. 2, and the Foreign program is transmitted at a reduced level through Fader No. 1.

PART 3. When the interpreter has finished his comments, he releases the Key Switch to its former position and the original program is restored to normal level. The recovery time delay is variable from one-half to two seconds and can be adjusted between these values by means of the screw-driver potentiometer located on the front panel and engraved **RECOVERY TIME**.

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World's Largest Manufacturers of Instantaneous Sound Recording Equipment and Discs

San Francisco News

By Lee Kolm

NAMES Make News . . . Dick O'Brien, KPO, is greatly concerned over the draft. Being of draft age and physically fit. Dick is wondering if he might be soon called for service in the Signal Corps . . . Art Dingle, KPO, reports a very pleasant vacation. Only sour note was the loss of two rolls of Kodachrome at the processing station . . . Guy Cassidy, SE, had the sidewalk superintendents guessing when his half completed house gave no indications of windows or doors. However, Guy had erected the walls before deciding on the location of his rooms and when that had been taken care of it was a simple matter to cut out window and door space. His plans, drawn on a piece of wrapping paper, are constantly changing as new ideas pop into his head . . . Jim Summers, CS, surprised the boys by returning from his vacation unmarried . . . Among those who have joined the home movie enthusiasts, we have: Al Eldredge, KGO, with an Eastman K; Harry Jacobs, SE, with an Eastman K; Don Hall, ME, with an Eastman K; Cliff Rothery, SE, with an Eastman 8mm magazine, and Mark Dunnigan, SE, planning to purchase a Bell & Howell 8mm. . . . Senator Thomas Q. Watson, SE, sends the following from Taylor and O'Farrell Streets, "a passerby recently noted KFRC-Mutual had plastered program advertisements on the building site fence. I do not expect the advertisements to remain long." . . . Henry Dunton has taken over the station engineer's duties at KGO during the absence of Shorty Evans. In his spare time, Henry handles the many details of the American Legion Post he commands . . . Ed Poage, KPO, has been spending considerable time studying maps for his vacation trip to Colorado . . . Charlie Kilgore, CS, spent his vacation cruising in the waters of the Pacific NW . . . George Dewing, SE, has been confined to Franklin Hospital with heart trouble and we're hoping for his speedy return to the studios . . . Bill McAulay, KPO, is back at work displaying a coat of tan and a healthy look after ten days spent on the McKenzie River in Oregon. Trout fishing was fair to middling . . . Robert Barnes, KPO, and Dan Williams, SE, went East to pick up new cars during their vacations. Barnes will return in a Plymouth and Dan will sport a DeSoto . . . Ed Manning, KPO, is now back on both feet after a long lay up due to an injured foot . . . Bev Palmer, CS, vacations in the vicinity of Victoria, British Columbia. We expect to see several rolls of Kodachrome exposed during his trip . . . James Blanchet, KGO, is in his fourth year as vacation relief at the Oakland transmitter. James is interested in amateur radio, (W6BGU) working on 40, and takes a considerable number of 8mm Kodachrome movies . . . Eddie Parkhurst, ME, recently purchased a 2.5 focusing lens for his Bell & Howell camera . . . Aubrey Fisher, KGO, reports the completion of a portable darkroom . . . Frank Barron, SE, came back from his vacation in the East and had to immediately put his wife and two

children in an isolation hospital due to scarlet fever. Sickness certainly hounds the Barron family . . . Harry Jacobs is the newly-elected studio councilman with Bev Palmer representing the supervisors and Red Sanders handling things for the field group.

Go West, Young Man!

By Tom Gootee

Mr. James A. Thornbury—now of Hollywood, earlier from Chicago—was never generally regarded by his colleagues and bar-room companions as *A Ladies Man*. To all outward appearances, he seemed to find more time for fooling with cameras and such than with the fairer sex. In fact, it was wrongly feared for many years in Chicago that he was a confirmed bachelor and misogynist. All amateur efforts at match-making were to no avail.

Then an amazing thing happened, and the Truth was finally told—in a most unexpected way. One day James was informed that he was to be transferred to Hollywood. Within



Mr. Thornbury Leaves for Hollywood

a few hours he was besieged in the halls, control rooms, and elsewhere by countless hundreds of young ladies—most of them in tears—bidding him fond adieu and farewell. This continued during all of his last days in Chicago; and at certain times there were as many as twenty thousand sad and heartbroken girls storming the studios. An enterprising photographer—who happened to be on hand one afternoon—took this picture, that the real Truth could never be denied.

Mr. Thornbury, of course, claims the *Whole Thing* was framed. He has even engaged the services of a well-known west Los Angeles shyster to defend him in court. But the Truth must be told! And it is with a good deal of awe that Chicago bids Jim a fond farewell. (And we are *still* trying to figure out how he did it—without ever staying anything about his Achievements!)

Ham Radio in the Defense Program

THERE has been considerable question as to whether the ham would be ruled off the air, or whether his position would be strengthened and encouraged by the war situation. Even now there is no absolute assurance as to which way the wind will blow. It is of interest, however, that government-sponsored radio training courses in vocational schools are including code practice along with their technical training programs and thus are turning out many thousands of potential hams.

It is of further moment that emergency communications networks are of the utmost importance to the national and local home defense organizations that are springing up all over the country under government urging. Radio offers the logical medium for these emergency communications networks and hams are being looked to as the logical organizers and operators.

Already many hams have been lost to this service through the draft and through enlistment in the army and navy and even now the localities which are organizing for home defense are finding it difficult to round up enough local radio men and equipment to handle their communications requirements. It is therefore urged that every qualified ham get in touch with his local defense committee. He will thus be helping to fulfill the purpose for which ham radio has always had the support and encouragement of our government to a far greater extent than in other countries.

Some of the communications equipment manufacturers are recognizing the equipment needs of such a program and are striving to keep supplies of equipment available to local communities and to hams, in spite of their "all-out" production programs for national defense. An example is found in the case of Hallicrafters. Both laboratory and production facilities have been greatly expanded to meet the government requirements for vast amounts of radio apparatus. Yet, at the same time these expansion plans have contemplated continuation of non-government production to the maximum extent allowed by the available parts situation and the prior demands of the government.

Not only does intelligent planning of this type make both design and production facilities available to whatever extent they may be required now or in the future by the government, but also for home defense and for the "normal" requirements of the ham. These latter will in all likelihood become more and more synonymous with those for home defense because experience to date shows that of the hams already participating in emergency communications nets many are supplying their own equipment.

There is the further consideration that continuation of a nucleus of "normal" business will facilitate the post-war

readjustments that will eventually have to be made by all business.

One result of the outlined plan will be the introduction of fewer new Hallicrafters models than has been the practice in recent years. Plans call for some new ones but these will be primarily those which find application in home defense activities. One model just introduced, for instance, is the Super Skyrider SX-32. With its 13 tubes and 6-band continuous coverage from 500 kc. to 40 mc., it provides the ideal ham receiver and is likewise ideally suited for "key station" use in state-wide and interstate network operations—especially as it provides for both line and battery operation, and likewise for operation from an external vibrapak in a car or at other portable locations.

Such action and plans on the part of a large manufacturer certainly indicate a conviction that ham radio will not only be continued "for the duration," but will be encouraged—and that should be good news to many hams. This conviction



Introduction of new communications receivers at this time, such as the new Skyrider SX-32 shown here, indicates a conviction that ham radio will continue active through the emergency

seems entirely logical when it is remembered that back in 1917 when ham radio was shut down during the World War there was no possibility of home defense being involved and therefore no need for emergency communications facilities. Now conditions are quite different, as attested by the fact that thousands upon thousands of citizens are organizing for various home defense services. One of the most important of these—communications—must necessarily depend largely on the hams.

The individual ham can contribute to making assurance doubly sure by lending his very best cooperation, both in equipment and personal service, to such existing or future local organizations as can use his offerings to advantage. He will not only be justifying the faith that the public and government have always placed in ham radio, but will be building for his hobby an even more important position in the future.

The Business Side of Television

By Noran E. Kersta

I.

An Example of Promoting an Audience

THE keynote of television activity today is that it is now a recognized advertising medium. The Federal Communications Commission and the Industry worked through very exhaustive studies and tests, and on July 1 proclaimed that television had proven itself technically ready for commercial operation. By commercial operation is meant the selling of "time-on-the-air" as is done in sound broadcasting. Thus were ushered in new opportunities for the radio industry to serve the govern-

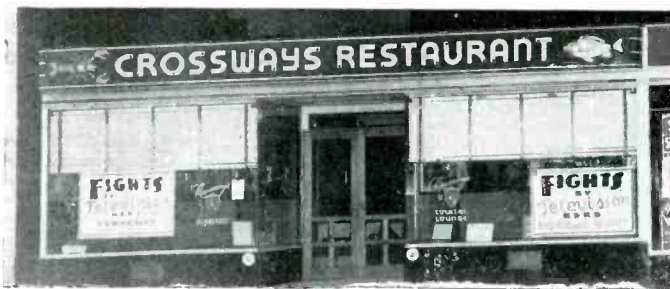
are: the cost per thousand circulation (viewers in the case of television) and the effectiveness of the medium as a selling tool. Putting these thoughts another way—how effective will his advertising dollar be in the medium? In this installment are covered a few thoughts pertaining to increasing television circulation, leaving the angles of cost and television advertising dollar efficiency for succeeding discussions.

One way of increasing the number of television viewers is to increase the number of receivers in the field, and another way is to increase the number of people viewing at each receiver. At

difficult to use direct methods to increase the number of viewers per receiver in home installations. However, in public places, where the main objective of having a receiver is to make use of the drawing power of television, direct methods may be used.

In order to test what results could be obtained using simple promotion methods to attract a crowd to a public place equipped with television, the Crossways Restaurant in Fleetwood, Mount Vernon, New York, was chosen as a test location. On the evening of the test the program was the regular Monday night Amateur Boxing pick-up from Jamaica Arena. The simple promotion used, considered a minimum which would be used by a tavern owner or an advertiser interested in promoting tavern television audiences, consisted of two signs in the restaurant window reading "Fights By Television Here Monday Night" installed on Saturday. Also, small cards were distributed on the bar and on the tables over the weekend, and handbills were distributed to the residents in the neighborhood on Saturday. On Monday night, boys distributed cards to commuters as they left trains at the Fleetwood station.

The normal attendance at this restaurant on a Monday evening, which is the low evening of the week, is approximately 15 or 20 persons. On this Monday night, the first television guests began to arrive at 8:30. At 9 o'clock, the starting time of the broadcast, there were 37 people in the restaurant. By 11 o'clock, at the close of the broadcast, there were 163 patrons present. A check of other taverns in the area showed that at no time was there a combined total of more than 15 patrons. The Crossways Restaurant owner reported that his attendance was over 900% larger and his receipts for this Monday night were many times his normal business, and compared with Saturday night, the busiest night of the



The window, restaurant, and poster used in the test promotion



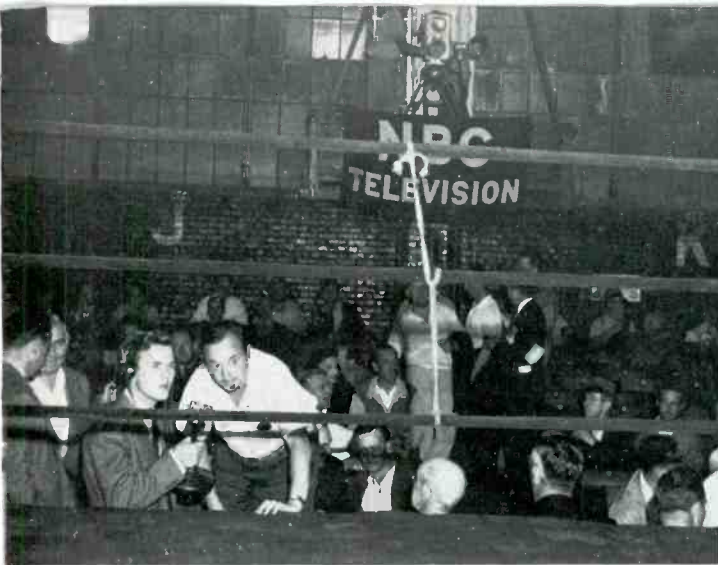
Some reaction of the patrons

ment, the public, and the advertising industry. These few thoughts are by the way of setting the sphere of discussion of a regular series to appear in this Journal relating some of the philosophies and activities of commercial television as it unfolds.

When an advertiser is approached to use an advertising medium two main thoughts hold his consideration. They

the present time, efforts are being made on both of these methods.

It is logical that the increase in the number of receivers in the field is related to the number of persons who can receive their first introduction to television on someone else's receiver. Hence, the first logical step in promoting television audiences is to endeavor to increase the number of viewers per receiver. It is



A part of the action the patrons saw. In the foreground Sam Taub (headphones) and Ray Forrest supply the commentary



Some of the 163 patrons around 10:30 p.m. during the two hour broadcast. The receiver is at the end of the bar

week. Paralleling these findings a survey made by the Beverage Retailer Weekly, trade paper of the bar and restaurant field, on television program preferences, showed that of the tavern owners who have television receivers, 94% reported that such installations had improved their business.

During the course of the broadcast, a questionnaire was distributed to the patrons in the restaurant. In answer to the question, "Did you enjoy this television program?", 90% acclaimed it enthusiastically. To the question, "Did you come this evening because of the television broadcast?", 79% answered yes. In answer to the question, "Would you come again to see a television fight program?", 88% said yes.

The results of this Monday night promotion, as well as other facts, indicated: one, a television installation in a restaurant, bar, hotel, or tavern does increase business, and two, the owners of these establishments are sold on television, however, they need some kind of assurance that television is here to stay and that the type of programs which their patrons desire will be on the air. Having discovered these facts, the National Broadcasting Company is intensifying its campaign in this field to give these businessmen assurances on television.

One step recently taken was the insertion of a full page institutional advertisement in a trade paper of the bar and restaurant field stating that the NBC appreciates their cooperation and loyal-

ty in the past, and that now the NBC wants to assure them that television will remain on the air and that the programs which they have been requesting not only have been on since the beginning of commercial service, but that in the future there will continue other programs that the restaurant and tavern

owners have indicated as being successful in their establishments.

Another step being taken is to induce television advertisers to merchandise their television programs by the distribution of window posters to public places equipped with television. Adam

(Continued on Page Twelve)

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Bliley Crystals

★
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Positive, dependable frequency control for radio transmitters in marine-craft (ship harbor service) and in itinerant aircraft (3105kc. and 6210kc.) is economically obtained with the type MCS Crystal Unit. This unit, low in cost yet precision-built, is made possible by the application of quantity production methods to an essentially custom manufactured product. WRITE FOR CATALOG G-12

BLILEY ELECTRIC COMPANY
UNION STATION BUILDING ERIE, PA.

Noise Elimination in Airplane Broadcasts

By Joe Rohrer

AS A feature of the Denver Airshow, a broadcast was made from a Lockheed Lodestar transport plane flying over Pikes Peak. Don Wilson was the announcer and the program consisted of interviews with celebrities aboard.

The technical setup consisted of an ND 20 transmitter powered with a converter and six volt automobile type storage batteries. The output of the transmitter was approximately twenty-five watts operating on a frequency of 31.22 megacycles. This frequency was chosen because of summer static difficulties on the intermediate frequencies ordinarily used by the airlines for communications. Cueing was accomplished by means of the ship radio and an RCA pic-me-up receiver loosely coupled to the transmitting antenna.

Airplane broadcasts are commonplace but our installation might be of interest

to others who have considered the same problems. The antenna, a half wave doublet, was hung in place of the regular ship radiator from a pole on the fore end to the tail. It is well illustrated in the accompanying photo. The doublet was made to our specifications and installed by the radio crew at Continental Air-

characteristic is flat to 7,000 cycles, down 2 VU at 500 cycles, down 3 VU at 300 cycles, down approximately 12 VU at 200 cycles, and too low to read at 100 cycles. With this fairly sharp cutoff at low frequencies speech still sounds very natural. Casual conversation comes through whereas without the compensa-



31 megacycle doublet antenna installation on Lockheed transport. Joe Rohrer making the inspection, Vern Andrews holding the transmission line to show how it bows in the slipstream when in flight



a by-product that is
now a **PRODUCT**

Expressly prepared for THE DAVEN COMPANY as a lubricant, this super-fine oil has been furnished, during the past few years, to purchasers of delicate and precise DAVEN laboratory equipment.

Liked so well, and reordered so frequently it has necessitated the formation of a subsidiary organization, the DAVENOIL COMPANY.

DAVENOIL is recommended for all electrical laboratory test equipment, microscopes, cameras, watches, etc. Leaves NO residue of dirt or sticky gum. Available in small bottles with applicator or in 8 ounce, 16 ounce and gallon containers.

DAVENOIL COMPANY
158 SUMMIT STREET • NEWARK, N. J.

lines. The transmission line used was Bassett concentric cable fed into the ship through the fresh air intake. Coupling to the transmitter was made with a two turn link to the tank circuit. The efficiency of the antenna was proven by the reception of broadcastable signals at fifty miles distance, the plane three thousand feet above ground and the receiving location fifty feet above level country. Two doublets were used with an ND 25 UHF receiver. These were hung at right angles to reduce directive effects.

The motor noise was effectively filtered by two simple changes in the transmitter audio ahead of the modulators. In the NBC ND 20 transmitters the first audio stage is a type 1603, and the second stage a type 76 tube. The coupling condenser between these stages was reduced from .1 microfarad to .002 microfarad capacity. The grid resistor in the 76 stage was reduced from 500,000 ohms to 40,000 ohms resistance. With 1,000 cycles for reference the audio



Installation of the ND-20 transmitter. One seat was removed and the equipment tied down with webb straps. Transmission line from the antenna fed in through fresh air intake. Converter and storage batteries not shown here were in baggage compartment, in the nose of the ship. Vern Andrews operating

tion the noise of the plane would over-modulate the transmitter even with the announcer shouting. We have heard some airplane broadcasts where the motor

(Continued on Page Twelve)

Who's Who in Chicago

(The Sixth of a Series)

By Tom Gootee

HAROLD P. JACKSON—once of England, more lately of Chicago and Maywood—came to this country on a visit back in 1929, and liked it so well he made his home here and eventually learned to speak our language with almost no accent. But his experience in broadcasting and radio covers most of the last two decades, both in England and in this country.

Harold first saw the light of day in 1904 in Liverpool, and grew up in the then peaceful region of Sefton Park. He struggled through a grade and high school education there, and then attended the University of London. At the close of the War he left school and assisted his father in the travel-bureau business.

But such work held little fascination for young Harold, and he soon became interested in wireless radio. He taught himself the few known principles, and studied from available books as best he could. There were no radio schools of any kind in England at that time.

In 1921 he took his first radio job as an apprentice in the factory of *Hambling's Wireless Company*—manufacturers of amateur apparatus and all of the audio equipment for London's only broadcast station: the famous 2-LO. After six months of training Harold was fully initiated into the complexities of assembling radio and audio equipment, and then spent two years with that firm constructing custom-built audio amplifiers.

During this period radio receivers came into more general use by the public in England, and numerous large department stores became interested in "radio"—to sell to the demanding public. Early in 1923 Harold went with one of these large stores: *Harrod's*—in full charge of their Wireless Department, such as it



Harold P. Jackson

was. He was a combination salesman, installer and service-man—but there was really very little work attached to the position he held. During an average week they seldom sold more than three or four crystal sets (without tubes), and never more than one receiver "with valves complete."

That was about the time when the G. E. [British] crystal sets were very popular. There were very few commercial tube sets on the market. Among these were the Marconiphone Receivers (a crystal set with two tubes of amplification) for \$300, the Sterling Telephone and the Edyphone sets, and for the best short-wave reception the MacMichael receivers were recommended.

Harold recalls his first radio service call, when an elderly matron wanted him to fix her radio "so it wouldn't play music so fast!" She had been hearing the first broadcasts of popular dance music from 5-XX in Daventry—and she apparently did not approve.

Despite his interest in radio, Harold often wondered if there was going to be much of a future in it. When the opportunity presented itself, he gave up his wireless job and became an automobile mechanic with the Daimler Car Company of London—where he remained a year. He picked up his mechanical knowledge—such as was necessary to get a job at that time—from tinkering around the family automobile. The Daimler was a very high-priced and lavish car, comparable only to the Rolls-Royce. While

thus employed, Harold always serviced all of the cars owned by the King of England: King George V—who, at the time, had one Rolls-Royce and five Daimlers, thus keeping Harold busy.

A year later he gave up his mechanical trade, and became an automobile salesman with a firm dealing in the French Citroen. Harold struggled through a year of selling, and then came to the

(Continued on Page Twelve)

MATHEMATICS FOR RADIO AND COMMUNICATION

by **GEORGE F. MAEDEL, A.B., E.E.**
Chief Instructor, N.Y. School, RCA Institutes

To master the technicalities of radio—to read engineering literature intelligently—you must have the mathematical groundwork covered by these absorbing books prepared for home study. Book I (314 pp.) covers the algebra, arithmetic, and geometry; Book II (329 pp.) covers the advanced algebra, trigonometry, and complex numbers necessary to read technical books and articles on radio.

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Send me Mathematics for Radio and Communication as checked below. I enclose payment therefor with the understanding that I may return the book(s) within 5 days in good condition and my money will be refunded.

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 Book II at \$4.00 plus 3c postage
 Books I and II at \$7.75 postage prepaid

THE BROADCAST ENGINEERS' JOURNAL ANNUAL PHOTO CONTEST

This year the Journal brings to its readers an opportunity to snap some new slants on broadcasting. There will be a first prize of \$15.00, a second prize of \$5.00, and two "honorable mentions" which will appear in our October issue. Contest is to deal with some phase of broadcasting, and will be judged by recognized authorities in the photographic field.

RULES OF CONTEST: 1. Pictures should have as subject matter some phase of broadcasting or television. 2. Any number of black and white prints may be submitted. Any size prints will be accepted, although 8 x 10 are preferred. Glossy prints reproduce better than matte surface. 3. All prints must carry on the back the typewritten or printed name and address of entrant, together with pertinent photographic data. It is better to write this on a separate sheet of paper pasted to the print, as writing on the back of print itself sometimes spoils face of print. 4. Pictures will be returned ONLY if a self-addressed, stamped envelope is included with the entry. While exercising the utmost care in handling, this magazine does not assume any responsibility for loss or damage of entries. 5. Judges' decision shall be final. 6. Address all entries to "Contest Editor, c/o E. Stolzenberger, 116-03 91st Avenue, Richmond Hill, L. I., N. Y." 7. Contest closes October 1st, 1941. Entries postmarked later than midnight of that date will not be accepted. Winners will be announced in the October issue of the Journal.

Business Side of Television

(Continued from Page Nine)

Hat Stores, Inc., has done this with both of their first three broadcasts of the fights from Ebbetts Field, Brooklyn, and this merchandising will continue. Mail expressing the effectiveness of this co-operation has been gratifying.

That these combined efforts are effective are indicated by reports of an increase in the demand and actual sale of additional receivers traced directly to this work. This means more places for more individual first meetings with television and thus more receiver installations and in this way television's sphere gathers momentum.

Airplane Broadcasts

(Continued from Page Ten)

noise would read minus 3 or 4 VU and only occasional peaks from the voice spilling over. With the compensation as described the noise level is approximately minus 15 VU, with announcer using normal voice.

Who's Who in Chicago

(Continued from Page Eleven)

conclusion that he should return to his first love: wireless radio.

Whereupon he resigned, and immediately obtained a job in the Wireless Department of the *Allen Company*—where he again was a combination radio salesman, installer and service-man. But the radio industry had constantly advanced, and many new trade names had made their appearance during his temporary absence. New receivers under the names of Brandes, Dauen, Burndept, Marconi and National (American)—all with several tubes—were more generally sold. Early in 1926 Harold created something of a sensation when he built and installed a radio receiver in his own automobile—surprising even the most stoic of pedestrians unaccustomed to mobile radio reception which, at that time, was quite unknown.

Harold was employed by the *Allen Company* for well over three years, until the fall of 1929, when he decided to come to America. Several years earlier his father, E. G. Jackson, had moved his travel business to Chicago — which accounts for Harold coming directly to the Windy City.

He had always visioned America as a great land of opportunity with plenty of good employment. But by the time Harold arrived in September of 1929 the bottom was dropping out of big business and the stock market was skidding merrily downward into hopeless confusion. So it was understandable that Harold found some difficulty in locating an immediate job. He tried several local electrical supply firms without success, and as a last resort went to one of the radio stations: W-E-N-R, at that time located in the Strauss Building on Michigan Avenue.

After an interview with Chief Engineer Gager, Harold was hired as an operator. He started work the last Sunday of September, 1929, and has been with the station ever since. Johnny Morris, the Control Supervisor, showed Harold "the ropes" at W-E-N-R and explained the operating procedure. At that time there were only four other operators, among them Clyde Dieterich and Frank Schnepfer.

Harold's first broadcast was the W-E-N-R Minstrels Show—which he handled regularly thereafter. When W-E-N-R moved its studios to the Civic Opera Building, Harold handled the famous "Smith Family"—a popular Monday night show featuring, among others, Marian and Jim Jordan — then two little known Chicago actors — and Irma Glen, also as an actress.

Along about this time Harold also did some acting himself on the old "Mike and Herman" comedy show, when he portrayed the part of an English lord. Harold explains that he was picked mainly because he had a definite British accent—and was also capable, if necessary, to supply any needed sound effects. Such were the early days of radio.

In March of 1931 the station was purchased by the NBC, and shortly after was moved to the Merchandise Mart. Only Johnny Morris and Harold Jackson were retained when W-E-N-R came to NBC, both as studio engineers, and Morris has since gone on to Hollywood.

Looking back on his radio career, Harold has seen and heard a good many programs "across the board." He has handled the General Mills "Wheaties" account for over eight years: the "Skippy" program for three years, and then the "Jack Armstrong" show for well over 1700 episodes—and still going strong.

In 1932 while riding gain on a girls' trio, known as the "Chicagoettes," Harold made the acquaintance of the soprano, Edna Cunningham, from which grew a friendship that finally blossomed into marriage. Now the Jackson family includes a boy aged four, and a girl aged six. And neither show the slightest interest in radio—which plainly puzzles Harold.

And to make the picture complete, Harold received his final citizenship papers in September of last year—and is now a 100 percent American citizen in his own right. Twelve years in these United States has all but erased his once prominent British accent—but it has whetted his sense of humor, and Harold can always be counted on for a laugh or a chuckle when the going seems hardest.

Stripers on the Pacific Coast

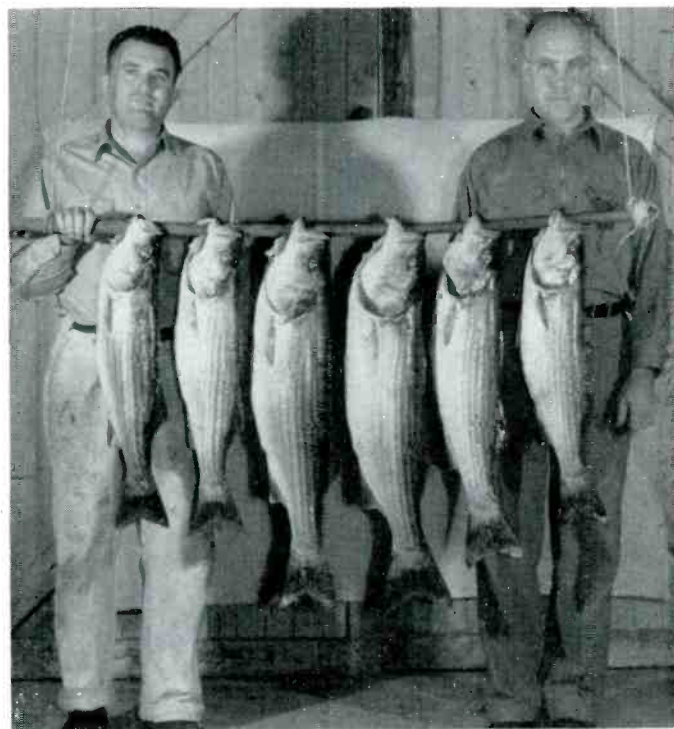
By M. S. Brewer

FROM time to time we here in San Francisco note articles in the Journal telling of Striped Bass catches on the East Coast, and we usually read them and smile because the size of the fish mentioned are so small! We realize, of course, that the fishing conditions on the East Coast are not the same as ours here on the Pacific Coast, so our smiles are more of pity than contempt. All of us who fish for Stripers here enjoyed the fine article by Serge de Somov in the May A.T.E. Journal describing Striper fishing on the East Coast. This article will attempt to describe Striper fishing as it is done around San Francisco Bay.

The Striped Bass, *Roccus Lineatus*, is not a native of the Pacific Coast. The Striped Bass was introduced to the Pacific Coast somewhere around the year 1880, when a few dozen of these fish were transported from the Atlantic Coast and released in San Francisco Bay in the Carquinez Straits. From this original planting of a few dozen fish, and later plantings of only a few hundred Stripers, has grown one of San Francisco Bay's greatest sport fishing assets. Checks by the California Fish and Game Commission show that there are now over 80,000 Striped Bass fishermen in California alone. From San Francisco Bay, where the Stripers appear in great numbers, they have spread out over the Pacific Coast as far southward as Monterey Bay, and as far northward as Coos Bay in Oregon, where they are found in considerable numbers and of great size. Coos Bay Stripers are reported to run from 20 to 50 pounds, with catches of plenty of 40 pounders not uncommon.

Stripers are caught all over San Francisco Bay throughout the year, there being no closed season, but the real "runs" follow a more or less well defined pattern that aids one in selecting the most likely part of the bay for the particular time of the year that one is fishing in. The Striper spawns in brackish water, and in the San Francisco Bay region the delta of the Sacramento and San Joaquin Rivers forms an area of several hundred square miles of ideal spawning grounds. One would expect then to find the Stripers moving from the Pacific Ocean into San Francisco Bay, including the many arms of the bay, and on up to the delta to their spawning grounds, which is exactly what they do.

Starting with the early Spring months, which is the time that most of us start our year's fishing, say in March or April, we find the Stripers scattered all over the bay, outside the bay along the ocean beaches, and even up on the spawning grounds in the delta, but nowhere in great numbers. At this time of year the fish caught run in size



Left, M. S. Brewer, KPO transmitter. Right, C. A. Poage, Assistant Station Engineer, KPO. Striped Bass weigh from 12 to 19 pounds EACH

from just barely "keepers", by which is meant a fish that is twelve inches long or just over, to fish that may run to

(Continued on Page Fourteen)

FROM A to Z

Antennas to Zenith . . . You can run through the alphabet of radio supplies and equipment . . . and you'll find every item on hand at Terminal. Don't overlook this fact when making your purchases.

TERMINAL RADIO CORP.

68 WEST 45th STREET

80 CORTLANDT STREET

« NEW YORK CITY »

Phone for Both Stores: VA nderbilt 6 - 5050

Condensers and Defense

The Solar Mfg. Corp. of Bayonne, New Jersey, has recently released an interesting folder titled, "Defense and You". It is of special interest to condenser users. It surveys the present difficulties of this industry, and provides a list of recommended condenser types which will be readily available. Their latest condenser catalogue is also available.

Terminal Radio Corporation Named Cannon Distributors in New York

Cannon electrical plugs will now be available for immediate deliveries in the East, instead of having to wait, as heretofore, for direct factory deliveries from Los Angeles.

The Terminal Radio Corporation, well-known radio parts jobber in New York, has been appointed distributors of Cannon equipment in New York and will carry a complete stock of Cannon plugs and receptacles.

The Cannon Electric Development Company, Los Angeles, California, states that this action was prompted by their desire to assure fulfillment of their customers' requirements in these uncertain times. The Terminal Radio Corporation is one of the few radio parts and equipment distributors still maintaining regular deliveries on radio commodities. Hard hit on deliveries of essential radio equipment of this nature, and sure to benefit by this move, are broadcast stations, radio laboratories, recording studios, public address specialists and other vital commercial companies.

Catalogs of Cannon sound products are available directly from the Terminal Radio Corporation, 68 West 45th Street, New York, N. Y. An equally well-stocked Terminal radio supply house is located at 80 Cortlandt Street, New York.

Mr. Joseph M. Muniz, General Sales Manager of Howard Radio Company, announces the appointment of Raymond Jaffe as Advertising Manager. Mr. Jaffe, a graduate of the University of Chicago, is well known in the radio advertising field, having been associated for the past five years with the advertising departments of leading radio mail order and manufacturing houses.

Sun Radio Expands P. A. Department

SUN RADIO CO., 212 FULTON STREET, NEW YORK CITY, the oldest established complete radio organization in the New York metropolitan area, announces the expansion of their public address department with the leasing of the entire second floor at 210 Fulton Street, adjacent to their building.

Henceforth to be known as "SUN SOUND STUDIOS", the 210 Fulton Street address will be devoted to the display and demonstration of quality home fidelity equipment as well as all classes of amplifiers and complete

sound systems with their associated accessories, such as tuners, recorders, record players, automatic record changers, F. M. adapters, speakers, pick-ups, microphones, etc.

A special sound-proofed interior, decorated in the modern manner to simulate actual home operating conditions, permits visitors and purchasers to make selection of suitable equipment a comparatively simple task. SUN SOUND STUDIOS are open to the public 8:30 a.m.-7:00 p.m. daily.

Readers with individual sound problems are invited to address their inquiries to Dept. PN for free analysis and recommendations by SUN RADIO'S expert technicians.

Stripers

(Continued from Page Thirteen)

30 or 40 pounds. The large ones are unusual at this time of year, the average running from 3 to 12 pounds. That puts us in a class with our Eastern brothers, but from then on things are different! At this time of year, also, there is usually a brief trolling run in the vicinity of Angel Island when the Stripers come into the bay from the ocean to feed on the Herring which run in large numbers from February to April.

From March until May or June, the fishing is more or less hit or miss all over the bay; you may get a limit of good fish, or you may get nothing. The bay fishing is greatly influenced by the wind, of which we have plenty from March until August, and when old Joe Wind comes along, you might just as well fold up and head for home. In May or June the bigger Bass make their appearance in the bay, and from then on the fishing grows better each week until the peak of the season is reached in September, October and November. In July and August we have a run of large Bass right along the San Francisco water front. When this run is on, which is usually at a time of minus tides, it is not uncommon to get a limit of Bass which is five, that weighs over one hundred pounds! During this water front run last year the author and his wife took three Bass weighing 27, 20, and 18 pounds and then stopped fishing because we had more than we could eat and give away!

During September, October and November the Bass move on up the bay toward their spawning grounds, and it is during these months that the fishing is really "hot" in San Pablo Bay, which is one of the arms of San Francisco Bay. When this run is on you can almost guarantee that anyone will catch at least one or two Bass. That was the guarantee that the author made Ed Poage, Assistant Station Engineer, KPO, last fall, with the results shown in the attached photo. These fish weigh from 12 to 19 pounds. Ed Poage caught the largest one, and really had a big one on that broke the line. And this on his first Striper fishing trip! This group of Bass represents an average catch for Autumn months in San Pablo Bay. These fish were caught on the one and only bait that is used for Stripers here—the Monterey Sardine. These are netted by the ton outside the Golden Gate and sold to the

sportsmen through regular bait dealers. We do catch some Stripers by trolling with spoons or Red Head Plugs, but it's safe to say that at least 99 per cent of our Stripers are caught on Monterey Sardines. These sardines are very soft and must be kept on ice all the time to keep them from decomposing before you get them on your hook!

Perhaps of greatest importance to our Eastern Brothers will be the reason why we have what we think is the World's best Striper fishing. The answer is—NO COMMERCIAL FISHING FOR STRIPED BASS. Ten years ago the catch of a single 20 pound Striper would have been material for a newspaper story with a picture accompanying the story showing the "whopper". Now 20 pound Bass are very common—Why? Simply because the sportsmen of California banded together and fought for several years until a bill was finally passed that prohibited the netting or sale of Striped Bass in California. This bill was passed about eight years ago, and since then we have watched our Striper fishing grow steadily better. We advise you East Coast Striper fishermen to organize all your sportsmen and go after legislation that prohibits Commercial fishing for Stripers. You will really have something to write about then.

Denver News

By Joe Rohrer

BILL WILLIAMS is transferred to NBC, Hollywood, as of August 1. Best luck to you, Bill!

Out of eleven men attending a nabet luncheon, seven were new, having joined the KOA operating staff within the last year. Calls to military service, transferring and switching



KOA mobile unit above timberline in Rocky Mountain National Park. A weekly presentation of "Nature Sketches" is made from this area to the NBC Red. Broadcasts feature the discussions of Park Naturalist Raymond Gregg with his junior nature study groups. The mobile unit is equipped with 25 watt UHF transmitter feeding the doublet antenna on the extensible pole. Program is relayed distances of ten or fifteen miles to the nearest telephone line

are responsible. A fine cooperative gang, operations are proceeding without a hitch.

NEED SOMETHING IN A HURRY? ★ SUN HAS IT IN STOCK!!

★ TREMENDOUS INVENTORY OF ALL STANDARD
RADIO and ELECTRONIC EQUIPMENT
★ COMPLETE SOURCE of SUPPLY for

BROADCAST STATIONS • ENGINEERS
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NOW — 6 TRUNK LINES
TO BETTER SERVE YOU!!

Call Barclay 7-1840-41-42-43-44 or 45 for PROMPT SERVICE

• •
VISIT OUR NEW SOUND STUDIOS

New York's Oldest Complete Radio Organization

SUN RADIO CO.

212 FULTON ST.
NEW YORK CITY
— EST. 1922 —

New facilities have been installed at the studios. A larger studio D, from which our transcription programs originate, and air conditioning are the main improvements. Additional recording and playback equipment is being installed.

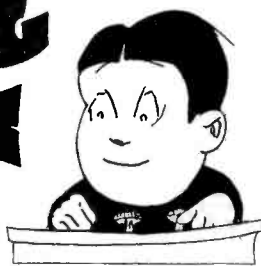
Pinky Kahle is passing cigars. It's a baby girl. Something should be done about the situation here at KOA. Out of the present crop of ten or so babies all are girls.

Walt Morrissey had a rather freakish accident which laid him up for several weeks and which caused him to go through the stages from being a total cripple back to normal again. That is, from the hospital bed to wheel chair to crutches to his present stage, which is a cane. All from simply stepping off one step, not realizing that there was no step.

We had a successful series of programs from the National Professional Golf Association tournament played at Cherry Hills Country Club in Denver. Play by play descriptions were broadcast using ND-31 pack transmitters. Bob Owen, KOA Chief, saved the day when an antenna broke off during a program by holding the fishpole together for the balance of the show.

During the Denver Airshow, lightning struck a tree within 100 yards of our NBC pickup killing two men. UHF antennas were strung up and connected to the equipment, but no discharge was noticed. We are making it a point to properly ground equipment on all setups.

RIDING GAIN



ON THE AIRIALTO WITH TOMGOOTÉE

THE two highest radio antennae in the Western Hemisphere will shortly be completed—one at Yankton, S. D., for WNAX, the other for WKY at Oklahoma City. Both of these radiating towers will be 900 feet in height—a new record for this part of the world. Construction of the two towers by the Truscon Steel Company is under the supervision of the Washington consultant: Glenn D. Gillett. Each of the new towers will be used as part of a three element array, employing two shorter towers. In addition, the WKY radiator will support a six-bay turnstile array at its top for FM transmission. Just at present the highest-self-supporting radio tower in this hemisphere is that of WSM at Nashville, some 878 feet upwards. But the highest in the world is the 1065-foot Blaw-Knox radiator in Budapest, Hungary—barring any recent accidents due to warfare.

* * *

New fall shows include: Burns and Allen plus Paul Whiteman's Orchestra for Lever Bros., Al Jolson for a series of his own, Bob Burns (solo) for Campbell Soup, Frank Fay (remember me?) plus Carl Hoff's band, for an unnamed sponsor, and Milton Berle and Charles Laughton (a duo?) selling beer.

* * *

Engineers at station WCOV in Montgomery, Alabama, don't mind it anymore, but at first it was a little disconcerting. It seems that Maxwell Field—Army air base near Montgomery—is just a few miles from the transmitter, and pilots use the radiator as a sort of pylon on a course they have marked out for practice flying. The continual zooming of planes—and usual ducking of engineers' heads—is no longer an oddity. But not a few of the operators have been

wondering lately what would happen if one of the embryonic pilots made the turn a little too short—and if so, how many months the station would be off the air.

* * *

The first Mexican radio network has finally been organized—boasting of a 10-station web—with a view toward exploiting the commercial possibilities (via advertising a la Americano) in that country. At present only a few hours daily are piped to the network from the key station: XEW in Mexico City. Lloyd G. "Bucky" Harris — formerly a director with NBC—is handling much of the production for the new organization.

* * *

U. S. service men are popping up on audience-participation programs with increasing regularity, and more often than not providing hearty laughs. The other evening a marine was being interviewed; he was asked whether he had any brothers or sisters. "Yes," he said—he had a brother. "And what does he do?" was the next question. "Oh," replied the marine with indifference, "he's in the Army. He measures cigarettes!"

And on Ralph Edwards' "Truth or Consequences" Program a recent Saturday night, Ralph was questioning a soldier-contestant who was to be married the following day. "And what do you plan to do after you're married?" queried Edwards. "Oh, I'm going on a three-month maneuver," was the innocent reply. And that broke up the show.

* * *

The old question of Power, More Power and Super Power will soon be under discussion again by broadcasters interested in eliminating the present 50 kilowatt power limit. Three *new* applications have been filed with the FCC for super-power—together with allegedly convincing arguments in favor of the Big Boost upward. KSL in Salt Lake, and WSM in Nashville, each request a power increase to use 500 kw.; while WLW in Cincinnati, once operating under an experimental license (since revoked) for 500 kw., now asks permission to use 650,000 watts—to completely blanket the rural areas it normally services. But almost forgotten in this new agitation for More Power are some *ten* other applications for 500 kw. output—most of them on file with the FCC for over five years; these requests, still pending, were filed by: WHO Des Moines, KFI Los Angeles, WOR New York, WHAS Louisville, WJZ New York, WJR Detroit, WSB Atlanta, WGY Schenectady, and WOAI in San Antonio.

Radio's Jewelry Supply House

See Kurt Jonatat, Jeweler

for Stop Watches
Sweep Second Hand Pocket
and Wrist Watches
or any Other Jewelry needs

Write or Call: KURT JONATAT
135 So. La Salle St., Chicago, Illinois Central 5330

We Specialize in Repairing All Types of Stop Watches
Special Prices for the Radio Trade

The CBS Blondie Show is now well started on its fourth year, and promises to become a permanent institution on the networks. Part of the success of the show is due to the skillful casting of Arthur Lake and Penny Singleton in the starring roles of Dagwood and Blondie Bumpstead. The pair look, talk and act like the cartoon characters they portray.

* * *

Without portfolios—or even sheet music—the vertiginous virtuosi of the no-doubt-world-famous Chamber Music Society of Lower Basin Street are fast becoming America's ambassadors of good will in the popular music field. Latest achievement of the (alleged) Society has been to have acetate recordings of its weekly concerts(?) over the NBC-Blue network shortwaved around the world by the NBC International Division. The recordings are played for swing and jazz-hungry listeners abroad during the special English Hour programs of the International Division. Screwball respite from the rigors of war.

* * *



NANCY MARTIN

Because she knows microphone technique so well and because her contralto voice is soothing even to the ears of hardboiled engineers, pretty Nancy Martin's crooning on the NBC *Breakfast Club* is tops with Ray Bierman — engineer who regularly rides gain on Don McNeill's waker-upper—and with Ed Bernheim—who does the same job for Nancy on *Club Matinee*.

* * *

Curtis Pierce, engineer on the *Mars Dr. I. Q. Show* has seen a good deal of the United States since the weekly series started back in April of 1939. His combined mileage for this period adds up to a trifle more than 95,000 miles to date—something more than three trips around this world. He has traveled back and forth almost every week to and from Chicago headquarters—to some 19 different cities. While the program was being aired from Los Angeles, Miami and later Seattle, he didn't commute to Chicago, however, that's a little too far for a weekly ride.

The management of the Yankee Stadium in New York recently banned portable radio sets in the ball park, contending that too many of the regular customers were annoyed by Brooklynites who tuned in the Dodgers' baseball games!!!

* * *

NBC scooped other networks with the first "on the spot" story of the arrival of the first detachment of U. S. Marines in Iceland—with a 10 minute broadcast from the capital: Reyjavik.

* * *

The first sponsor of televised sports events was the Adam Hat Company of New York—who signed with NBC to handle all of the boxing matches from Ebbets Field in Brooklyn. The fights are regularly broadcast over the NBC-Blue network, and telecast over WNBT.

* * *

Ten Years Ago in Broadcasting. Popular among the evening network programs in 1931 were Raymond Knight's "Cuckoo Hour" with Robert Armbruster's orchestra; Will Rogers' Gulf Oil Program (with his famous alarm clock—for getting off the air on time!); the Sunday night *Colliers Hour*, with John B. Kennedy; the *Sisters of the Skillet* (Eddie and Ralph); the *True Story Hour* (dr-r-rama!!); Ben Bernie and Blue Ribbon Malt (for home brew, of course!); Singin' Sam, the Barbasol Man; the *Cliquot Club Eskimos* (banjo solos with this one!); and several hundred others that have since been almost forgotten.

* * *

Twenty Years Ago in Radio. Another new broadcasting station went on the air this month, in 1921: WPT at Norfolk, Virginia. Owned by the City of Norfolk, the Telefunken 1000 watt transmitter operated variously around 300 or 475 meters. And a crackpot amateur—corresponding with one of the leading technical magazines of the day—made the very absurd suggestion that a second or even a third grid added to an ordinary tube would probably make the tube much more useful, a better amplifier, and several other possibilities; this grid idea was, of course, very fanciful and silly and no one paid much attention to it. It was certainly hard enough to get *one* grid in a glass vacuum, without trying to do the *impossible!* Gee whiz!

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The Yacht *Trade Wind*

By Morton S. Brewer

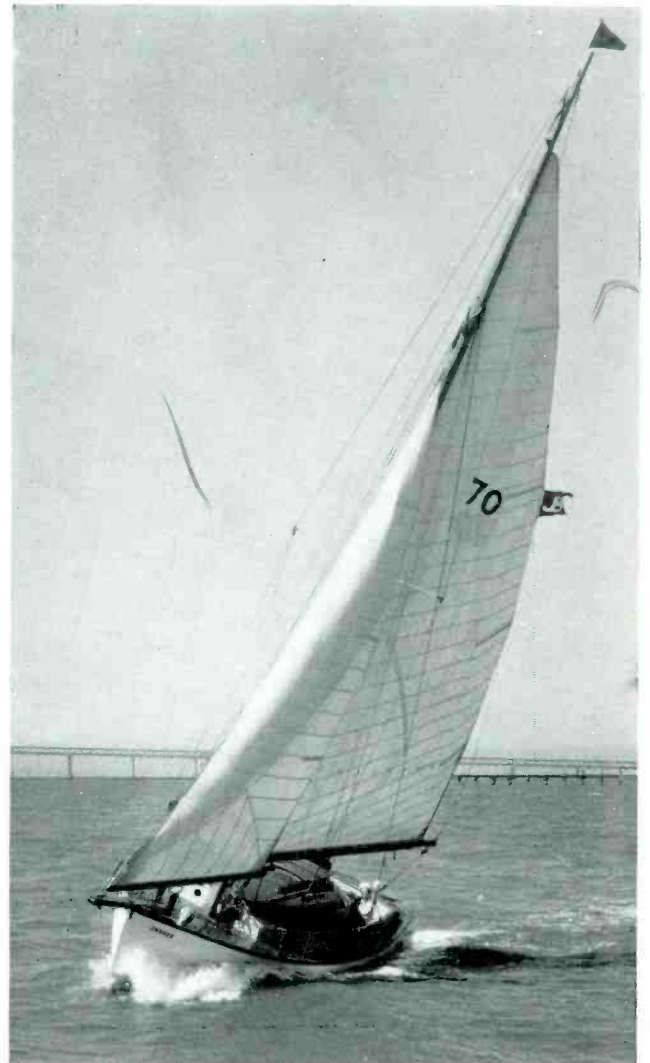
HOW'S Joe Baker's boat?" "We heard that Joe has been winning some races." "What's Joe doing with his boat?" To answer these and many more questions like them, we present the following description of the *Trade Wind*, constructed, owned and operated by Joe Baker, Station Engineer at KPO.

The *Trade Wind* was completed in April of 1940, after almost two years of good hard work. When we recall that Joe used to get up at daybreak and work on the boat until it was time to go to work, and then go home and work all evening on it, then spend Saturday and Sunday working on the boat, and the better part of one vacation on the boat, we mean just that: "hard work." The plans, the pre-shaped ribs and the planking were purchased in the East and shipped out by water. The boat was constructed in back of the house in which Joe was living at that time, and which was situated on the side of a steep hill. Having the completed boat trucked away presented no small problem, as one slip might have resulted in a "launching" down on U. S. 101 highway below the house instead of in San Francisco Bay.

The boat itself is 28 feet long and has a beam of 9 feet 7 inches. The draft is 4 feet 10 inches. Joe wants it to be known that the boat was built primarily as a pleasure boat, not a racer. A single cylinder eight horsepower engine serves as an auxiliary and gets Joe back home when he becomes becalmed. The galley of the *Trade Wind* is really something! It is equipped with, of all things, a wood and coal stove! Kind of old fashioned some may say, but the comfort provided in cold, wet weather makes up for any criticisms that may be offered. Other conveniences include a toilet and ice box. The boat will sleep four people very comfortably.

In spite of the fact that the *Trade Wind* was built as a pleasure craft, the old racing urge has reared its ugly head and the boat has turned out to be a good racer in her class (with a favorable handicap!). Some racing was tried in 1940. No races were won, but a lot was learned about handling

the boat and a pretty good handicap was established. This racing season has been a different story—two races won so far. Joe is particularly proud of winning the lightship race, which is nearly always a tough grind for any but the largest boats. In this year's race two boats were dismantled in the particularly heavy weather on that day, and only a few of the



The Yacht "Trade Wind" Photo by Joe Baker

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starting boats finished. On the day before this race, while trying the boat out on the bay, a drowning man was rescued. It seems as though this unfortunate man was out with a real landlubber and accidentally fell in the Bay near the San Francisco-Oakland Bridge. The landlubber could not handle the boat, so the poor fellow was left to the mercy of the elements and would have undoubtedly drowned in the swift current had not Joe been nearby, spotted the accident, and

fished the man out of the Bay. Sailing a boat up to a drowning man in the heavy seas and current that existed at the time of the rescue was made is no small feat, so our hats are off to Joe's seamanship.

Joe's rescue efforts were rewarded with a quart of good whiskey which he assures us will be kept aboard for "future emergencies".

Joe was aided in constructing the boat by his son, Joe, Jr., who is now in the Navy. Joe, Jr., is now stationed in this district, so he gets away on week ends occasionally to help in sailing. Besides winning the Lightship race, the two Joes have also won the Richmond Regatta for boats in the *Trade Wind's* class. Luck and all other things prevailing, they will participate in the Santa Cruz race which will take them 75 miles each way on the ocean. Good luck!

Among Those Present

ONE of the transmitter engineers who helps win GE plaques for KGO is Dick Parks — known on the records as Richard T. Parks, Jr. One of the first facts that Dick impresses on you is that he is from Texas, suh, and he might add, "where men are men and women are glad of it!" Born in the Lone Star State thirty years ago on Friday, the 13th of September, he celebrates his birthday along with Norma Shearer and General John J. Pershing, but insists that both Friday and the 13th have always been his lucky days. And considering the charmed life he had lead, we might add that every other day in the week was lucky, too!

Dick received his early education in Corpus Christi and at the age of sixteen, under the tutelage of old timer, 5MS, joined the ranks of hamdom with the call 5BBY. During this period he worked for the town's leading radio shop servicing Atwater Kents, Crossleys and Kolsters, and when the first broadcasting station (KGFI) came to town Dick joined the staff which consisted of four people. His proudest achievement here was the installation of an antenna and counterpoise made of solid aluminum tie rod which was strung between two twelve story buildings.

In 1929 while Dick was finishing Schreiner Institute at Kerrville, Texas, he often "qso'ed" 5GS in Houston. This was a young Englishman named Vincent S. Barker, Esq. (!) who had been in this country for a short time and who had decided that radio was his dish. This was a fortunate decision for NBC for Vin is now at the Empire State television transmitter. When Dick finished school he joined Vin on a geophysical prospecting expedition for Shell Oil Co. and during the summer they proceeded to blow huge holes in the Eastern part of the State with 700-pound charges of dynamite—the old refraction method of siesmeographing.

In 1930 Dick decided it was time to see what the rest of the world looked like so he joined RMCA and went to sea on various tankers, freighters, and passenger ships. In 1933 while on the SS Santa Barbara (WPBT) he met an old ham friend down in Lima, Peru, who was co-pilot radio operator

New N.A.B.E.T. Engineering Chapter Chairman

Vernon J. Duke was recently elected chairman of the Engineering Chapter succeeding R. W. Clark. He was first



Vernon J. Duke

Chairman of the Denver Chapter of A.T.E. and was their delegate to the first A.T.E. National Convention. He is a graduate of Colorado University and the General Electric Student Engineering course. While with General Electric he worked on early television development and radio receiver design. In 1929 he was transferred to KOA where he was transmitter engineer. In 1937 he was transferred to the NBC

development group where he has concentrated on television development.

on Pan-American Grace Airways. This life looked good to our hero who returned to New York, resigned from RMCA and (dream of every radio op!) got right back on the ship

(Continued on Page Twenty)

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New York Engineering News

By R. A. Isberg

TELEVISION is rapidly getting back into its stride and will soon have its full complement of personnel. A section of the Sixth Avenue building (adjoining the RCA building) has been made available to the television program and executive offices, video effects and stage properties group. A portion of the space used by the prop department has been made two floors high so that large stage sets can be constructed and painted. A new entrance connecting the two buildings on the third floor affords easy movement of sets between the live talent studio and the prop department.

Studios 6A and 6B are marking time pending the settlement of the I.B.E.W. Electricians strike against Consolidated Edison which has tied up virtually all construction in New York City. However, an early settlement is anticipated. The walls have been erected, most of the floors have been poured and many of the air conditioning ducts and conduits are installed. Broadcast circuit wiring is started and the consoles and announcers delites are under construction. The Technical Service boys have had a very unhappy time trying to keep N. Y. operations pacified while construction is in progress. Much of the heavy work caused objectionable noise in the studios, requiring that some of it had to be done after broadcast hours. These hours were not appreciated by the workmen and it also slowed construction. Jim Wood hopes that when work is resumed that all the engineers and production men will not complain unless the noise actually impairs a program on the air.

The San Francisco Studio Building is well under way. Messrs. Phelan and Arnone are supervising its construction and probably will be there until the first of the year.

Fredendall, Strang and Mead have Chicago under their thumbs and expect the new studios and recording facilities to be in operation next month.

Berglund is busy with plans for emergency power supplies for all NBC studios and transmitters. This is a result of war experience in England and the infrequent but sometimes serious power failures which have occurred in the past.

Mr. O. B. Hanson's book "The House That Radio Built" is being revised and enlarged to include descriptions of all NBC studios and plants in their latest form. The demand for the first edition has exhausted the supply and the requests for additional copies have necessitated the revised edition.

New fathers include Burns, seven pounds of oomph; Townsend, six and seven-eighths of the same, and McMillan, a ten pound heavyweight he-man. Rumor has it that the Frasers are likewise to assume parental responsibilities.

The many old friends of Lieut. James M. Strong, U.S.N.R., formerly of NBC Engineering in New York some years ago, and more recently Commercial Manager for Mackay Radio in New York, may be interested to know that

Jim has been on active duty in the Code and Signal Section of the Navy Department for the past ten months. Word has just been received from Jim notifying us of his detachment from his present duties, and he is about to embark for his new assignment to the American Embassy at London, in connection with certain duties there. All of Jim's friends, we know, wish him good luck, and Godspeed — and a safe return eventually.

Among Those Present

(Continued from Page Nineteen)

as a first-class passenger. Back in Peru, he went right to work flying in the right seat of the big Fords and in his spare time was learning to fly at the company's school. When he got his transport license, Dick was transferred to Santiago, Chile, and during the next year made 126 crossings of the Andes between Santiago and Buenos Aires—the highest commercial airline in the world!

While in the USA on vacation in 1935, he suddenly realized that something was missing! Yes, a wife! He wondered why he kept thinking of a lovely red-head he had met at the July 4th party at the American Embassy in Buenos Aires. A quick trip to Denver followed where Dick sold the red-head's family a bill of goods and departed with their daughter, Carolyn, as Mrs. Parks. On to Santa Monica where they picked up a new Douglas DC-2 and ferried it to Lima, Peru, via Brownsville and Panama. Quite a honeymoon!

In 1935 Dick was transferred to Cristobal and for the next year flew Consolidated and Sikorsky boats from Panama across the Equator to Guayaquil, Equador. A year of the tropics was enough for him, however, and in 1936 he returned to the USA and joined Condor Air Service in California flying Hornet powered Fleetsters. After a year of this Dick was beginning to yearn for his first love — radio. He heard something about a 40-hour week and after a quick trip to San Francisco, found himself at the KGO transmitter, where he is today and hopes, by the grace of God and the government bureaus, to stay for "quite a spell"—as they say in Texas.

In the
past it
was the . . .

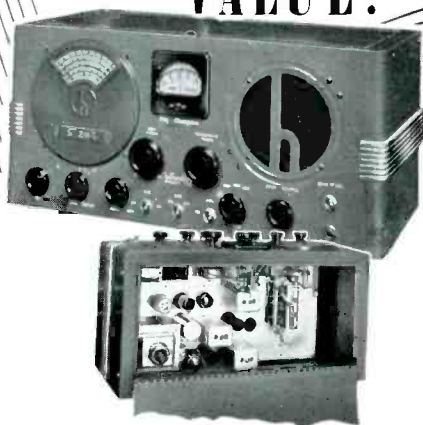


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- Broadcasting station WJZ (1st unit), Bound Brook, New Jersey
- Broadcasting station WJZ (2nd unit), Bound Brook
- WJZ studio renovation, 33 West 42nd Street, New York
- Removal of old WJZ towers from roof of 33 West 42nd Street
- RCA Technical and Test Building, Van Cortlandt Park South, New York
- RCA receiving station, Belfast, Maine
- RCA tuning coil and mast foundations and anchors, Tuckerton, New Jersey
- RCA short wave station and cooling pond, Rocky Point, Long Island
- Foundations and erection of towers and masts, Rocky Point
- RCA community house addition, Rocky Point
- Additions and alterations, administration and development buildings, Rocky Point
- RCA receiving station and additions, Riverhead, Long Island
- RCA alterations, Bush Terminal, Brooklyn, N. Y.
- Mast erection, roof of 30 Broad Street, New York
- Mast erection, roof of 65 Beaver Street, New York
- Alterations, RCA Communications Building, 66 Broad Street, New York
- Erection of NBC television antenna on dome of Empire State Building, New York
- Design and erection of television relay tower, Hauppauge, Long Island
- WABC guyed tower erection and foundations, Mountain View, New Jersey
- American Radio News tower erection and foundations, Carlstadt, New Jersey
- WEVD mast erection and station alterations, Brooklyn, New York
- Research laboratory for Major Edwin H. Armstrong, Alpine, New Jersey
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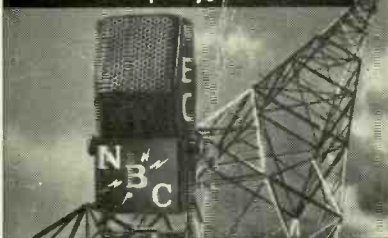
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Among the many ideas of the famous Florentine artist and scientist, Leonardo Da Vinci, were: a flying machine, parachute, air-conditioning ventilator, sea-diving apparatus, printing press, mechanically driven car, machine-gun, breech-loading cannon, shrapnel, aerial bombs, lens grinder and polisher, nap-raising machine.



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