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NEW YORK, N. Y.

THE BROADCAST ENGINEERS' JOURNAL

Volume 9, No. 5

May, 1942

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THE BROADCAST ENGINEERS' JOURNAL

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The Broadcast Engineers'





"...This is the Voice of Freedom!"

Out of the night's dark secrecy, "somewhere in Europe" an illegal radio speaks. Those who listen risk the concentration camp. Those who broadcast face torture and the headman's axe... A FREE RADIO, the birthright of Americans, is *high treason* under European dictatorship.

For dictators know well that they cannot long withstand the power of *uncensored* news, freely transmitted and freely received!

The National Broadcasting Company is proud to have played its part in keeping *American* radio *free*...proud to have abided since the beginning of broadcasting by the spirit and the letter of that "Freedom of Speech" which is written into the American Bill of Rights. of thought and action have had equal access to the facilities of NBC. They have been free to present those views to Americans ... and Americans have remained free to listen to what they chose. No American political party, no religious denomination, no economic group has ever found the gates of the American system of broadcasting barred against them. For 15 years, NBC has operated "in the public interest, convenience and necessity..."

Freedom of Radio — like Freedom of the Press—is *today* more vital than ever. The National Broadcasting Company, like all Americans everywhere, will continue to guard that freedom jealously—will continue to serve America as *only* a Free Radio can serve it !

Exponents of opposing views in every field

NATIONAL BROADCASTING COMPANY A Radio Corporation of America Service

The Broadcast Engineers' 2 Journal for May, 1942

San Francisco's Radio City

SINCE veteran executives and engineers of broadcasting have pronounced San Francisco's new Radio City the most perfect plant of its kind ever designed, and since it is agreed the improvement will definitely establish San Francisco as one of the four great radio centers of the United States, let's look at the qualifications which give the structure such an impressive rating.

There can be no argument with the statement that stations KPO and KGO were in serious need of new quarters. Over a period of ten years many plans and ideas had been considered without favorable action.

Late in 1939 the effort became more determined. A

total of 38 different propositions were investigated. The best of these was developed and recommended. Approval and authorization followed in November, 1940.

Today construction is practically completed and public dedication was held on April 26. The structure represents a total value well in excess of one million dollars, including an investment of \$200,000 for special equipment.

Scores of business executives and civic leaders have endorsed the judgment of NBC management in establishing such a broadcasting headquarters in the city which is the recognized business center of the Pacific Coast. They also approve the location at the corner of Taylor and O'Farrell Streets. It is in the heart of the retail business district within a few minutes walk from the largest department stores, theatres, hotels and clubs.

Five stories high, the

building is constructed of reinforced concrete, trimmed with bands of glass brick. These admit daylight but are not transparent. There are no windows in the building and it is air-conditioned throughout.

Architecture is modern, streamlined but not freakish, fantastic nor faddish. The structure contains 52,800 square feet of floor space, more than double the area of previous quarters. A larger percentage of the footage is devoted to studios and not wasted in unnecessary office and hallway area.

The main entrance is on Taylor Street, beneath a dignified, inviting marquee. An 80-foot tower rises above the entrance, the most dramatic feature of which is a great mural panel, 16 by 40 feet. It symbolizes the vast extent of radio and the unlimited service it gives to all the lands and all the peoples of the earth.

Ten studios give KPO of the National Broadcasting Company and KGO of the Blue Network Company adequate facilities for all broadcasts, rehearsals and auditions. The largest of these will accommodate audiences of 400 people.

All studios open to the public are on the second floor, easily accessible from elevators and stairway.

Show windows at either side of the entrance and others inside the main lobby tell the story of radio, and publicize programs and radio-advertisers' products.



At the opening of San Francisco Radio City. Left to right, William B. Ryan, General Manager KGO; Mark Woods, President Blue Network Company, and Don E. Gilman, Western Division V.P. of the Blue Network Company

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that plans and specifications included every improvement that has been developed in laboratories or learned in the construction of studios in other cities. San Francisco's new broadcasting headquarters has the benefit of all this experience and knowledge.

There is a special PAX system to make all house monitoring possible and to enable executives to dial any studio, any program or any other local broadcasting station direct from their desks.

Following the best accepted practice, every studio has been set on springs with the walls and ceiling suspended by springs the box within a box idea. In this way it is impossible for any outside sound or vibration to reach the studios. All wall surfaces have scientifically correct acous-

The Broadcast Engineers' 3

Such interesting activities as the master control room, news room, traffic, radio recording, are visible from the foyers on different floors through large windows, making it possible for visitors to see what goes on "back stage" in a broadcasting plant. For the "emergency," certain modifications in this original plan have been taken to protect vital areas in accordance with National

Defense policy. There are a million feet -that's 190 miles-of wire in the building, most of it being of a special design to meet the requirements of broadcasting. Much of the technical equipment was constructed in the engineering field office, across O'Farrell Street from the building site.

Determination of the San Francisco organization to have the finest broadcasting plant in the world was shared by the New York NBC executives and engineers, with the result



tical treatment and are set at angles that make echoes and sound reflection impossible.

Steam heat is combined with the air conditioning system to maintain ideal atmospheric conditions, with temperatures of 72 degrees combined with a moisture content of 45 per cent. Controls and equipment are located on the fifth or penthouse floor.

Having the entire plant air-conditioned will be a definite benefit to the musicians in keeping their instruments tuned. They will not have to make corrections as they move from one temperature or degree of moisture to another, as they have become so used to doing in the past.

Office and studio layout and the arrangement of departments received much serious study by many members of the planning staff as well as the architects and engineers. The result is a series of floor plans conducive to absolute efficiency of operation. Convenience of the public also was kept in mind as plans were drawn for the newest showplace in a city filled with showplaces.

From the moment the public passes through the beau-

<complex-block><complex-block>

tiful entrance doors into the exquisite lobby, every detail of design and decoration will interest visitors. The broad stairway and elevators invite them to the second floor.

Facing this foyer is the newsroom with its teletype machines bringing news from the four corners of the earth over the wires of all three of the great news syndicates. Editors there prepare news broadcast material; while in the center is a triangular news desk from which broadcasts originate.

Through another large window visitors see the traffic department where program schedules are worked out, corrected and kept posted on huge boards with colored tabs.

Studio A opens directly off of this foyer through double doors and a vestibule. At the far end of the room is the large platform and to the right the control room. This studio, 41 by 70 feet, seats 400 people.

Studios B and C are just a few steps down a public corridor and are 24 by 44 feet. Control rooms are at the far ends of these studios and the huge pipe organ is located in Studio B. This massive pipe organ is the largest organ (Continued on Page Seven)

Organ grill "B" Studio. Largest radio organ on Pacific Coast (\$35.000)

Automatic PBX telephone equipment room

Air conditioning equipment



The *new* KGO is a *better* KGOlocated in Radio City, San Francisco



Main Lobby of KGO's new home in Radio City, San Francisco

We of KGO are proud indeed of our new offices and studios in San Francisco's new Radio City. These new facilities enable us to put out a better quality of radio for our listeners, and in addition give our local advertisers sponsoring live-talent "audience shows" the most modern and showmanlike studios for their commercial presentations.

NEWS-KGO News Room

7:00 a.m			1:15 p.m 9:00 p.m.
8:15 a.m	 		3:15 p.m 9:55 p.m.
9:15 a.m	 • •	·	5:30 p.m 11:00 p.m.

COMMENTATORS

Baukhage	Daily 10:00 a.m.
Hillman & Lindley .	Daily 4:30 p.m.
Pearson & Allen	Sunday 5:45 p.m.
Clete Roberts	Daily 9:15 p.m.

MUSIC

Wheeling Steelmakers .	Sunday	2:30 p.m.
Radio City Symphony .	Tuesday	6:30 p.m.
Let There Be Music	Monday	9:30 p.m.
Cugat's Rhumba Revue .	Tuesday	10:00 p.m.

DRAMA-VARIETY

I Love a Mystery	Monday 8:30 p.m.
Jack Benny	Sunday 8:30 p.m.
Three Ring Time	Tuesday 8:00 p.m.
Rudy Vallee	Thursday 7:00 p.m.
Elsa Maxwell	Friday 7:00 p.m.





"INFORMATION PLEASE" 8:30 p.m.— Tuesday



"JACK BENNY" 8:30 p.m.- Sunday



"LET THERE BE MUSIC" 9:30 p.m.— Monday



"RED_RYDER" 7:30 p.m.— Tues., Thurs. & Sat.



"SPEAKING OF SPORTS" 7:30 p.m.— Friday



"MARCH OF TIME" 6:00 p.m. - Friday



"ALIAS JOHN FREEDOM" 4:30 p.m.- Sunday



Blue Network Key Station

SAN FRANCISCO OAKLAND

*

810 Kilocycles



KPO's 50,000 watts now come from San Francisco's million dollar Radio City

KPO is now broadcasting from the spectacular new NBC Building in downtown San Francisco. Here, in a compact, streamlined, five story building is all that is new in radio.

Now KPO is equipped better than ever before to produce outstanding radio programs. Each of KPO's 10 new studios was constructed for a

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particular kind of broadcast. One of them was designed especially for your program.

Next time you are in San Francisco please let us know. We'll be glad to show you "the most modern broadcasting plant in America." Then you can see for yourself one of the many reasons why KPO has such a wide margin of air supremacy in Northern California.



SAN FRANCISCO 50,000 WATTS 680 KILOCYCLES

The Broadcast Engineers' 6 Journal for May, 1942

San Francisco Radio City Opening

By F. L. Barron

S UNDAY, April 26, 1942, represented the official starting of broadcasts from the huge million dollar "RADIO CITY" with the presentation of the General Foods—Jack Benny show. That was but the starting gun for a program of big shows to follow in rapid order, the likes of which the populace of San Francisco had never had the opportunity of witnessing right in their own front yard. To say that they took advantage of the situation would leave the reader with a clouded idea of the spontaneous response received; the people of San Francisco simply took over the place and crowded every nook and corner to inspect this latest addition of facilities to an art which the public considers its very own, viz., RADIO.

To the listener far removed from this locale he may have experienced some wonderment at such a grand scale importation of talent, but we here on the "lot", as show people are prone to express it, recognized it as a courtesy that was on the point of flattery. One could almost draw upon the worn-out phrase of "hometown folks make good" with the parade of talent that was chosen to represent the dedication ceremonies, for, intermingled somewhere in the cast of practically every show was somebody of importance that has either received his start right here in San Francisco, or who was born in these surroundings and was anxious and thrilled to exercise their art in front of an audience composed of their own friends or people. Let's take a look over the members of the cast of various shows to see how this works out.

On the Jack Benny show itself, Phil Harris, the orchestra leader, got his start right here in San Francisco, and the audience was dotted with friends who thrill to Harris' success. Bill Morrow and Ed Beloin, gagmen extraordinaire, and responsible for no mean success of the show, display a cosmopolitan air which could only be acquired with more than ordinary association with this most cosmopolitan city.

Meredith Willson is almost synonymous with the name of San Francisco itself, having been music director for this local office for many years and being the originator of many outstanding programs which are still on the air today, but which on account of their success were forced to move to larger quarters in other places.

Paul Whiteman, who handles the baton on the Burns and Allen show, has frequently referred to his start in San Francisco, over the air, long before the idea of the new Radio City was conceived. We know Paul's attraction for the color and atmosphere of San Francisco through conversation with him while working his "NEMO'S" during regular engagements at the local hotels. What could link the Burns and Allen show closer to ourselves than the fact that Gracie Allen was born here.

Al Pearce and his show was practically a local "must" around these parts for many years, and the populace actually begrudged Al time out to make his yearly tour up and down the coast so as to even things up with the millions of listeners that followed his particular brand of talent.

It is a useless waste of words to point out the attachment to San Francisco of the "One Man's Family" cast and writer, Carlton E. Morse. The very locale of the story scatters various landmarks of this city throughout the "FAMILY" daily life—Sea Cliff; down-the-Peninsula; the "Sky Ranch" along the "Skyline Boulevard," and even "Montgomery Street" where Father Barbour used to have his brokerage office. The majority of the cast still retain homes here, returning en masse each summer during vacation to enjoy a brief contact with the home folks. During this period the broadcasts continue out of the local office. Writer Carlton E. Morse was working on the newspaper, "THE S. F. CHRONICLE," at the time he took up the task of guiding "THE FAMILY" through their various episodes.

"The Great Gildersleeve," a program reflecting the infectious laugh of Harold Perry, long a member of the dramatic staff of the San Francisco office in the older days, and now adopted by millions throughout the nation as a vehicle for reflecting the same little amusing daily vicissitudes which they may think is their own private affair. Harold was born just across the bay in San Leandro.

Larry Keating, one of the ace announcers and incomparable M.C. heard regularly out of Hollywood, is a "graduate" from San Francisco; as is also Lew X. Lansworth, writer of "Whodunit." Bob Redd, author of Union Oil's popular program "Point Sublime," also spent the better part of his radio years locally. Checking further, we find that Hal Bock, NBC's publicity director in Hollywood, also was attached to the San Francisco office, in the same capacity.

This is but a few of the more important shows which have been emanating from the new broadcasting establishment which San Francisco chooses to call its very own, and about which the local citizenry is so justly proud; but we must not completely background the many purely local productions by resident talent and which enjoys similar popularity by the listening network followers, such as "Alias John Freedom" and "Ricardo's" various musical productions.

To the curiosity-seeking public, opening day for the new studios was of the nature of Circus Day for the small boy, but to the older members of the various staffs representing host to the visiting celebrities it was "home town week" throughout the entire eight days of opening celebrations. Exclamations of surprise, warm handshakes and back-slapping, wide smiles of meeting old friends, and genuine suppression of welled-up emotions at being "home" again was evident throughout every studio, control booth and corridor. All of us are still wondering who received the greatest thrill, the public on account of witnessing a great spectacle, or the folks behind the scences of broadcasting on account of the deep sentiment of renewing old acquaintances and friends. We suspect the latter. Let's have more circulating shows.

RADIO CITY

(Continued from Page Four)

housed in any radio studio on the Pacific Coast and is valued at \$35,000. Studios A, B, and C are two stories high and clients' observation booths are above the control rooms.

Studios D, E, and F are across the public corridor from B and C and each is 20 by 30 feet in size. Studio G opens off the end of the corridor and is to be used chiefly for speakers or forums or programs not of particular interest to visible audiences. (Continued on Page Twenty-three)

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Journal for May, 1942

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E HAVE read so many descriptions of the new million dollar Radio City building in San Francisco, which was dedicated on Sunday, April 26, 1942, all written in more or less of a technical vein; now we are going to try and cover the story purely from the casual sightseer's point of view. In order to get the full reaction of a first comer's feelings to the genius of the decorator's art, your correspondent enlisted the aid of T. Stevens, also a studio engineer, and decided to make a tour for ourselves, and to try to describe the colors and effects, just as most of our stylists and women's program economists do on air shows in every part of the country. Later, we wished that we had brought one of our stylists along to enlighten us, as the specially prepared and off-standard colors soon taxed a mere man's powers of description. Here is our feeble attempt.

Approaching the building from the outside we were deeply impressed by the clean-cut beauty and sheer brilliancy of the newly-painted concrete and glass brick modernistic designed building, with its attention gathering vari-colored mural depicting radio's service to all mankind. All our readers will recall the picture of this mural which appeared in a previous issue, and which also may be seen in views which appear here. However, our chief interest at present lies inside, so passing under the bronzed marquee, and through the doors we are transported into a world of captivating color.

The modernistic main lobby is a vivid display of Chinese Red and stainless steel, silver paint and glass brick and instantly creates an inward sensation of higher appreciation of the modern art of radio whose home this palace so ably represents.

Choosing to use the stairway instead of the automatic elevator, we advanced to the second floor whereon the studios are located. We come out on a large lobby decorated solely in light colored natural wood finish, with a contrasting medium dark linoleum. To our right, and in full view of the public is the traffic room with its vari-colored wall-charts, its teletype machines and its crew trying to remain composed under the searching eyes of an inquisitive staring public.

Directly in front of us as we arrive at the head of the stairs is another "fish bowl" activity to be seen, viz., the news room, which however is not as yet in

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Francisco Radio City Tour ... By F. L. Barron

operation at this writing. Turning to our left we are confronted by the doors of "Studio A" and now our color tour really begins.

Entering Studio "A" we are in the center of a virtual symphony of blue, and brother I mean "symphony." Symphony means a large number of instruments harmoniously blended to converge as one. Well, you got just that in various shades of blue in studio "A". Stevens was looking at the front, I was looking at the back portion. I said it was greenish blue tint; he said it was definitely baby blue. He thought I was crazy; I thought he was color blind, and then it dawned on us that the decorators had used a scheme of tapering colors and both of us were right; and nothing was wrong physically with either of us. We

(Continued on Page Ten)

Top Left: Exterior view of building. Left Center: Main lobby. Bottom Left: Traffic Department viewed from lobby. Top Right: Showing a portion of "A" Studio. Right Center: Client's booth, "B" Studio. Bottom Right: One of the intermediate sized studios.



TRANSMISSION MEASURING SETS



TYPE 6-C



TYPE 6-C Designed in co-ordination with the General Engineering Department of the Columbia Broadcasting System, the 6-C Transmission Measuring Set consists of complete transmission and load units assembled on a single rack type panel. With a frequency range from 30 to 17,000 cycles, this set provides an accurate and rapid method for measuring the transmission characteristic of networks at audio frequencies.

The reference level is the new standard of 1 mw. across 600 ohms. Weston Type 30 meters are employed. The attenuation range is from Zero to 110 db. in steps of 1 db. Power range is calibrated from -16 to +45 db. Dial selection of useful network input and load impedances. No correction is required \$325 when changing impedances. Overall error is 2%

TYPE 685 An unusually flexible, universal gain measuring instrument for rapid and accurate measurement of overall gain, frequency response and power output of audio amplifiers, this assembly has a useful frequency range from 30 to 17,000 cycles.

It is direct reading in decibels and does not require correction factors or calibration charts. All networks meters and associated apparatus are shielded and carefully balanced, matched for uniform accuracy over this wide frequency range.

Attenuation range is + 10 db. to -120 db. in steps of 1 db. Power measuring range is -20 db. to + 36 db. Eleven load impedance values, ranging from 5 to 600 ohms are available. Output impedances may be changed from "balanced" to "unbalanced" and to any loss impedance by means of \$225plug-in type matching networks. Overall error is 2%.

The DAVEN catalog lists the most complete line of precision attenuators in the world: "Laddee", "T" type, "Balanced H" and Potentiometer networks—both variable and fixed types—employed extensively in control positions of high quality program distribution systems and as laboratory standards of attenuation. Special heavy duty type switches, both for program switching and industriat applications are available. Super DAVOHM resistors are precision type wire-wound units from 10' to 0.10'.

applications are available. Super DAVOHM resistors are precision type, wire-wound units from 1% to 0.1%

accuracy. More than 80 laboratory test equipment models are incorporated in this catalog.



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RADIO CITY TOUR

(Continued from Page Nine)

therefore felt qualified to continue our quest of colors.

Truly, seven different shades of blue are used to produce this effect, starting with a greenish-blue tint in the rear, and ending with practically a baby-blue shade up front, in preparation for the darker shade of drape border which margins each side of the huge vivid orange velvet curtain drawn across the back of the stage. To effect the contrast the audience seats are black with a generous portion of aluminum colored trim, and the aluminum theme is carried on to the music racks and all practical fixtures. Effective? You just have to see it to believe its possibilities.

The control rooms follow the general colors of the parent studio, but in the case of the tapering colors for "A", no tapering was done in the booth. Just a particular shade was picked and the room done in that shade; with the light natural wood-finish of the console left to furnish the contrast.

Advancing to Studio "B" we were awe-struck by the complete change of color theme. Here, chartruesse became the prominent decorative scheme offset with a most elusive colored border which extends upwards about three feet from the floor. Instantly another argument resulted in trying to describe this border, both of us quoting evasive colors which we had heard our wives mention in describing some of their sewing material. I was for calling it "purplish brown." Stevens thought there was far more purple than brown in it, and we were well on the way to no compromise when Harry Jacobs, S.E., came along and put his finger right on the words we had been fishing for by designating it as "egg plant." These widely separated colors are toned off with grey linoleum bordered in deep green. Prominent by virtue of its utilitarian purpose is the huge grill which hides the largest radio organ to be found on the Pacific Coast.

Studio "C" was next, and more trouble with Stevens. Instead of "pink-ish light grey" he said his wife called that color "taupe," so taupe we made it. This was also trimmed with the same "egg plant" color as "B", and finished off with grey linoleum bordered with vivid orange.

Color descriptions were coming easy for us now so we stuck our heads into Studio "D." Again we ran into a complete change of theme. Old rose for the walls and ceiling was unanimously (Continued on Page Twenty-three)

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ENTIRE GROUP ATTENDING

 Seated (L. to R.): Lt. j. g. Bill Wood, anncr. (last day as anncr., first day as Lt.); Oscar Berg, maint, supvr.; C. C. Kilgore, CR supvr.; Al Nelson; J. A. O'Neil, rcdg. supvr.; George Greeves, eng.-in-charge NBC S.F.; C. C. Jefferson, CR.
Standing, first row (L. to R.): G. W. Andresen, S.C.; F. L. Barron, S. C.; Doug Gourlay, anncr.; Cliff Rothery, S.C.; Eddie King, anncr.;

Standing, first row (L. to R.): G. W. Andresen, S.C.; F. L. Barron, S. C.; Doug Gourlay, anner.; Cliff Rothery, S.C.; Eddie King, anner.; Frank Barton, anner.; Mark Dunnigan, S.C.; Andy Mitchell, rcdg. eng.; Guy Cassidy, S.C.; Jim Summers, CR.; Hal Platt, S.C. Second row (L. to R.): Joe Arnonni, N.Y.; Tommy Phelan, N.Y.; Don Hall, maint.; Harry Jacobs, S.C.; Budd Heyde, anner.; Reid Browning,

Second row (L. to R.): Joe Arnonni, N.Y.; Tommy Phelan, N.Y.; Don Hall, maint.; Harry Jacobs, S.C.; Budd Heyde, anncr.; Reid Browning, anncr.; Archie Presby, anncr.; Johnny Grover, anncr.; Floyd Farr, anncr.

Back row (L. to R.): Geo. McElwain, field supvr.; Elmer F. Meade, N.Y.; Lee Kolm, S.C.; Gordon Strang, N.Y.; Hal Wolff, anncr.; Clark Sanders, S.C.; J. R. McDonnell, S.C.; Joe Baker, ch. engr. KPO transmitter; Edgar Parkhurst, maint.; Dan Williams, S.C.; Bev Palmer, engr.-in-charge Blue, S.F., and Burton Bennett, anncr.

An Expression of Friendship to *Al Nelson* by the Engineers and Announcers of KPO and KGO

A^L... you're the honored guest at this luncheon, representing the entire group of engineers and announcers, both Red and Blue, who were here before the network split.

This is not a gathering engineered by a few and followed by the rest . . . but

COMMITTEE ON ARRANGEMENTS

Top row (left to right): Budd Heyde, anncr.; Cliff Rothery, S.C.; John Grover, anncr. and also N.A.B.C.T. cartoonist; Frank Barton, anncr. Seated: C. C. Kilgore, CR supvr.; Al Nelson, J. A. O'Neil, recording supvr.



every man here, without exception, entered wholeheartedly into the spirit of this gathering.

Some of us were here when you assumed the leadership of KPO and KGO in San Francisco . . . some of us came later . . . but all of us who have

worked with you have learned to respect you as a man, and have watched with humble pride the gigantic steps forward Radio in San Francisco has taken under your able leadership.

We're groud . . . and we're humble . . . For before you came to San Francisco, the wishes we all entertained for a new, modern broadcasting plant, had faded with the years . . . until . . . all of us . . . engineers and announcers alike . . . had ceased to hope.

But now, in the magic time of a year and a half, that building has risen . . . and with it our faith in the future of radio, which we have chosen as our life work.

I said the building rose magically . . . To us . . . yes. But we all realize that it stands today as a monument to your untiring efforts and unselfish devotion. In a few weeks this new building will

be opened and dedicated with all the pomp and ceremony of a great industry ... and in our happiness and pride ... we might overlook the expression of our gratitude to you ... who are so deserving.

That is why we've gathered here today. So with thanks in our hearts, and pride in your leadership . . . we say . . . simply . . . humbly . . . and sincerely . . . Thanks Al . . . and Carry On.

> The Broadcast Engineers' Journal for May, 1942

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Industry Executives Laud

DAVID SARNOFF. President RCA:

"The dedication of San Francisco's Radio City takes on added significance at this time. The new studios, embodying the last word in scientific advancement, prove our faith in San Francisco and its importance to the nation The new and enlarged facilities greatly enhance the informative, entertainment and morale-building tasks that are vital parts of our public service."

NILES TRAMMELL, President NBC:

"High program quality and high public service responsibility demand that broadcasters utilize the best equipment available. The construction of San Francisco's Radio City was in keeping with that belief, and Northern California will greatly benefit by NBC's splendid new facilities. The studios are appropriate settings for the important programs originating in the great West Coast city."

FRANK E. MULLEN, Executive Vice-President and General Manager NBC:

"In 1915, President William Howard Taft referred to San Francisco as 'the city that knows how.' Certainly, the broadcasting world has reason to share in this sentiment. She has become increasingly important as a point of origin for network programs. In recognition of this, NBC has constructed studios in San Francisco which are worthy of this important radio center."

SIDNEY N. STROTZ, Vice-President Western **Division NBC:**

"Radio, so intimately a part of practically every life during normal times, is infinitely more vital during a period of national crisis. Always the friendly purveyor of news and entertainment and education, broadcasting today sublimates all these functions to the supreme task of helping fit a whole people to win a great war and a great peace. San Francisco Radio City was conceived in peace. Its object was to bring the Golden Gate on a par with New York, Chicago, and Hollywood as one of the four major network producing centers in America. That it is brought forth in war in no way means that the original objective has not been achieved. Rather does it signify that this milliondollar monument, literally the most perfect broadcasting plant devised by the ever-improving hands of our industry's miracle engineers, takes its place in the surge of our nation's war effort as definitely as does the latest plane factory and the newest shipyard. Morale, as well as munitions, will win this war. Radio will do more than any other agency to enhance morale . . . and San Francisco Radio City, making possible more programs and better production and quicker news dissemination from the great war theaters of the Pacific, is going to be a powerful contributory factor."

O. B. HANSON, Vice-President and Chief Engineer NBC:

"In radio engineering, the word 'new' must never supersede the word 'best' in importance. In the design of San Francisco's Radio City studios, technicians based their specifications on the equipment the nation's leading laboratories and broadcasting plants found to be most efficient. Hence, the San Francisco studios can boast of being 'best by test' even at their very dedication."

MARK WOODS. President Blue Network Co.:

"American radio growth stems primarily from technical achievement. While program broadcasting has attained new high levels in entertainment and education, radio engineering and technique has set the pace for the scope of our nation's great radio industry today. Never has this been more aptly proven than in the opening of America's newest Radio City, in the heart of metropolitan San Francisco. Here, at our country's gateway to the Pacific Ocean, is the culmination of a quarter-century of perfected developments in the art and science of radio broadcasting. In this amazing steel and concrete structure are embodied all the miracles of modern radio engineering and technical facilities. In a world at war, San Francisco's Radio City will probably remain as the outstanding international broadcasting plant in existence for the duration. The Blue Network honors the opening of this new home for its San Francisco offices, and for the facilities and studios of KGO, its Northern California station outlet. It is further evidence of our faith in radio's technical and industrial future in Western America."

GEORGE MILNE, Chief Engineer Blue Network Co.:

"The new million-dollar home of KGO and the Blue Network is an outstanding example of the very latest in technical design and construction. It is one of the most compact and efficient buildings of its type. Ultra-modern in design, it is also streamlined in its technical facilities. With the experience the technical operating personnel has gained from 15 years of operation at 111 Sutter Street applied in their new home there is absolutely no doubt of the continued and improved quality and continuity of the program service of KGO and the Blue Network in the San Francisco Bay Area."

San Francisco's Radio City

DON E. GILMAN, Vice-President Western Division Blue Network Co.:

"It is gratifying indeed to the Blue Network as a whole that facilities commensurate with its outstanding contributions to American radio are now KGO's with the opening of the new million-dollar broadcasting plant at Taylor and O'Farrell Streets in San Francisco. As one of the three key stations of the Blue Network, KGO has always been an outlet for fine radio entertainment, and for noteworthy public service and cultural programs. Today KGO and the city of San Francisco are rewarded for their patience in being provided with the world's most modern studio facilities and engineering equipment, in the nation's newest Radio City."

AL NELSON:

"The National Broadcasting Company has kept the faith by presenting a perfect broadcasting plant to San Francisco. This means many other things. Ideal facilities will carry corresponding benefits to listeners, to artists, to technicians, to producers, to office staff, to sponsors and everyone concerned with the many phases of broadcasting. If the time and thought, the labor, material and money that went into the improvement are to be justified, it must also mean more business for KPO and NBC. Every one of these objectives is definitely possible and the momentum of past promotion should be a great aid to their realization. Those of us who have had most to do with planning and creating the new building are happy to have contributed our best efforts to its success."

BEV PALMER, Chief Engineer KGO:

"The San Francisco office of the Blue Network Company's Engineering Staff, and the technical operating personnel of Station KGO, both look forward to greater service to the nation's radio audiences through the efficient usage of the modern engineering facilities of San Francisco's new Radio City."

WILLIAM RYAN, General Manager KGO-Blue:

"San Francisco looks to Radio City as the focal point of a new and expanding period of development for radio broadcasting in the Northern California listening area. Impetus is given to this new radio center by the assembly of the finest equipment available, the latest type of operating facilities and an outstanding roster of engineering personnel. Radio City offers Station KGO and the Blue Network an unprecedented opportunity to build new audiences with improved programs under the best possible conditions. We have pledged ourselves to those objectives and to the maintenance of the nation's highest technical operating record for which KGO has won the General Electric Merit Award for two years in succession (1940-41)."

A. H. SAXTON, Western Division Engineer NBC:

"We knew we were planning the finest in technical facilities for Radio City, San Francisco. Upon viewing the completed work we feel that it has more than exceeded our fondest hopes."

GEORGE GREAVES, San Francisco Engineer-in-Charge NBC:

"San Francisco's Radio City has placed at the disposal of the Engineering Department the most modern technical facilities ever conceived for broadcasting. We in turn will utilize these facilities towards the furtherance of radio's vital service to our community and national listening audiences."

JOHN SWALLOW, Western Division Program Manager NBC:

"The program facilities now available to the San Francisco production department are now equal to the finest of any major office throughout the nation. A high percentage of our leading stars and outstanding programs received their start in San Francisco. We trust that new talent and new ideas will more easily find expression under the stimulating influence of such inspiring surroundings."

HOW TO SAVE MONEY In One Easy Lesson By Tom Gootee

ONEY being such an important part of our everyday life, it is only natural that most of us should think about it occasionally-or constantly-and wonder if it isn't possible for us to acquire a little more. This element of the human mind should not be considered as a miserly attitude-and, the psychologists tell us, it is a quite natural desire to better ourselves.

But the problem of How to Save Money is a hard one, and must be considered from all angles. After spending a lifetime in this pursuit-with little or no success-we feel qualified to report on several phases of this lost art.

Within a short time-say, eighty years-it should be possible to amass plenty of that green folding money, which is variously referred to as kale, mazuma, frogskins, jack, sugar, plenty of scratch, greenbacks, berries, bank rags, dinero, leaves, lettuce, case notes, long green, lucre, smackers, mint leaves, straw, toadskins, and the like.

By following any of the rules herewith presented, you should soon be able to start saving your own money-all by yourself. In practically no time at all you will have more currency than you can shovel with two shovels in two weeks. You can start your own Mint, in competition with the gov-(Continued on Page Seventeen)

The Broadcast Engineers' 13 Journal for May, 1942

Denver News

Here is a little revitalization from the foot of the SNOW-CAPPED ROCKIES—and how!

Joe Rohrer hasn't found enough time to let you know about Denver's activities, so beware of any news you hear from now on. Joe and Stan Neal are teaching classes in radio for National Defense at the University of Denver; while George Anderson is in charge of a radio laboratory for a defense class. What a review for men out of college for quite a few years!

Stan Neal is working on the "Q.T." for Uncle Sam. He launched a motor boat last summer that is headed for "mosquito boat" service. His latest undertaking is a sailboat. Any suggestions to the service of this dreadnaught? Moving pictures can show each stage of assemblying the Neal Navy. Stan has a two-man crew—the other being "E.T." Aubrey Blake. Aubrey has the "33 1/3 rpm Jerk" watching so many E.T.s—he's the KOA stroboscope.

Skiing is well over, but those who have participated this last season are "Perry" Peregrine, Joe, Stan, Bill Kumpfer; and even Aubrey got enough courage to try it. There were a lot of sunburned faces last winter.

Gene Carpenter and Roy Fell have exchanged plans. Gene bought a five-acre tract just northwest of the city limits; Roy sold out and moved to town. Gene is quite a farmer now; has about 175 baby chicks that are well on their way to the "frying" stage—oh, boy, will Gene have a lot of visitors this summer.

"Chief Ordnance Officer" Austin has been skinning calves in his spare time, as well as retrieving ducks that By V. E. Andrews

fly into the zeon lighting on KOA's 475-foot tower. Dutton hunts for muskrats that get trapped in the cooling pond at the transmitter.

Russ Thompson has given up the ham rig and spends his time redecorating his home—you can tell who's boss in the Thompson family. George Anderson is now assistant treasurer to collect dues from the gang here—no wonder we're broke all the time!

Well, at last Howard Johnson has the laugh on us. He's the only one around here that owns a "jeep" that gets mileage on both tires and gas. He claims 40,000 miles out of a set of tires and, just think—he gripes about 32 miles to a gallon of gas! Recently while having the motor overhauled (what motor?) he took the floorboards out and pushed the Bantam around by his feet—similar to a kiddy-car.

A recent issue of American Magazine shows a Jap operating a short-wave transmitter. Since when did they learn to operate a ND-14??? What say, Hollywood?

Again the Colorado birds brought color to the Easter services from the Garden of the Gods. The birds were picked up by a parabolic mike on the municipal golf course at the edge of Colorado Springs proper, just 10 miles from the Garden of the Gods pickup. Both pickups were equalized and mixed at a church in the center of town. Loudspeaker monitoring helped make the control point a miniature control room.

Walt Morrissey was the first to show up with cuffless trousers on his new suit. Isn't it swell to be single!

This is the dirt for this time, so keep 'em flying.

If you have not been using or have not yet tried Allied's New Glass Base Discs, a trial will convince you of their merits and superior quality — at no premium in the cost to you. We invite you to try this disc — that is how we obtain new customers. We feel certain that you will



reorder — that is how we build sales volume — from satisfied users. Your telephone call, letter, wire or cable will receive our prompt and courteous attention.

PROMPT DELIVERY direct from the manufacturer to any part of the United States, Canada, South America and to some foreign countries. ALSO AVAILABLE recoating service for your old aluminum discs. Delivery in one week. Details on request.



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The Broadcast Engineers' 14 Journal for May, 1942





(Left) A portion of the Plaque presented to Al Nelson

sentimental value the presentation contains.

Simplicity being the keynote, the two words "Thanks Al" represented the entire thought expressed. This was headed by an engraved outline of the new NBC Building. Below this was a printed list of the names of announcers and engineers participating. Al knew exactly what the key words meant and proved far more eloquent than the most carfully prepared speech could have possibly done.

The plaque was executed by the Grabhorn Press of San Francisco, one of the most outstanding classical printing establishments in the world, and was printed in Goudy type. Goudy in the type and printers' world holds the same rank of genius as Michael Angelo holds in the artistic and architectural world.

The parchment of the plaque is worthy of special mention, as it is from a stock of handmade linen paper of French workmanship and from the only remaining stock in the world today, as the artisans of this much sought after paper in the classical printing field have since disbanded and their facilities completely destroyed by the present war in France, therefore it is absolutely irreplaceable.

We have every evidence that Al was overcome emotionally with the spirit of the occasion, and that he will treasure his keepsake long after he may pass beyond the sphere of NBC operations, not for its intrinsic value, but as a modest expression of appreciation of the work that he has accomplished in our behalf. In closing may we again add "THANKS AL."

O^N FRIDAY, April 10, 1942, studio "A" of our old location at 111 Sutter Street was the scene of a touching and most impressionable ceremony, which may appropriately serve as the last great function to take place in this historic studio.

A beautiful plaque was presented to Al Nelson, General Manager of the combined KPO—KGO stations, by the announcers and the engineers, as an expression of appreciation for his work in being the motivating force in securing the completion of the beautiful new working quarters about to be dedicated as the foremost center of radio broadcasting operation in San Francisco.

As the entire ceremony was in the nature of a surprise party on Al, it is a credit to the committee in charge of the affair that it was possible for the event to take place so smoothly and with such complete surprise to Al. No one who has ever tried to manipulate a busy man's time to his own purpose will be able to understand the involved difficulties of securing a vacancy on an executive's calendar so as not to interfere with the planned surprise party. It was virtually necessary to Shanghai Al for the occasion.

Arriving at Studio "A," completely unaware of what was to take place, Al was greeted by the combined assemblage of the announcing staff and the engineering staff who rose to their feet and gave him a rousing welcome. Immediately he was presented with the printed plaque and ushered to the reat reserved for the honored guest. Then a prepared recording was started which opened with Al's favorite musical selection of "Beautiful Dreamer," followed by a most

touching eulogy of thanks for the hard work that Al had accomplished in his efforts in securing the new building for San Francisco. The presentation speech was made by Announcer Budd Hyde, whose voice, in case you don't know Budd Hyde, seemed made expressly for such occasions. To say that Al was overcome would be but to drag out an old hackneyed phrase, but after all is most descriptive of his emotions.

At the end of the record Al arose to respond, first granting credit for those who had so cleverly put one over on him by engineering his presence, and then disclaiming all individual honors for success in his accomplishments and putting them back on the shoulders of the combined forces of the San Francisco personnel, particularly stressing certain individuals, and not forgetting those who have since departed for military service and were not present for the occasion. This however has been characteristic of Al throughout his entire reign of General Manager of the San Francisco office.

Following the close of Al's speech everyone retired to the buffet luncheon prepared and spread on tables in the studio by George Mardikian, famous chef extraordinaire, and 'nuff said. George it was who deserves the major portion of the credit for engineering Al's presence at the prescribed time in studio "A" so as not to upset well laid plans for a successful completion of the ceremony.

We said that the plaque was a printed affair, and this may not sound impressive, but a description of what is behind the bit of printed paper may be in order and it can be readily appreciated what

The Broadcast Engineers' 15 Journal for May, 1942

TECHNICAL PRESS REVIEW



A digest of leading technical articles in the current contemporary press.

[In these busy times few engineers can spare the time required to read all the current technical literature. It will be the purpose of this regular feature to provide an index of current technical articles on radio broadcasting and related subjects.—Ed.]

Electronics — April, 1942

Non-metal Shields

By Bernard H. Porter

This paper makes suggestions dealing with shields for vacuum tubes, etc.

ULTRA-HIGH-FREQUENCY TECHNIQUE

I. Radiating Systems and Wave Propagation

By A. G. Kandoian

General and directive antennas for transmission and reception with methods of calculating radiation pattern. Discussion of wave propagation for "line of sight" transmission.

BULL'S EYE

Yes, Sirree! You're sure hitting the Bull's Eye when you come to us for your Radio and Electronic Equipment. Ask any Radio Engineer. He'll tell you why.

It's because we keep our customers happy simply by filling their orders completely and efficiently with maximum speed and minimum fanfare.

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II. Generators for U-H-F Waves

By I. E. Mouromtseff, R. C. Retherford, and J. H. Findley

Limitations of negative grid oscillators and amplifiers. Use of magnetrons and velocity modulated tubes with cavity resonators as generators for u-h-f waves.

III. U-H-F Reception and Receivers By Beverly Dudley

by beveny Dualey

Limitations of receiver sensitivity by noise. Considerations of the first stage, particularly with reference to converters, with bibliography.

IV. Wide Band Amplifiers and Frequency Multiplication By D. L. Jaffe

Design considerations of wide band, high frequency amplifiers for transmission or reception. Frequency multiplication and division by multivibrators and counter circuits.

V. Measurements in the U-H-F Spectrum Bv R. F. Lewis

Employment of transmission line methods for determining voltage, current, resistance, reactance, and power at frequencies where usual techniques are unreliable.

Communications — April, 1942

New Dial Calibration System

By Robert L. Drake and Robert R. Schmidt

This paper describes a mathematical method of calibrating tuning dials, as implied by the title.

Transmitter Maintenance

By Charles H. Singer

This paper describes maintenance practices at WOR — W71NY, and test equipment used therefor .

Bell Laboratories' Record—April, 1942

The C2 Control Terminal for Radio Telephone Circuits By J. O. Smethurst

This paper discusses some of the problems encountered in radio telephone circuits, and the latest equipment developed for handling these circuits.

(Continued on Page Nineteen)

The Broadcast Engineers' 16 Journal for May, 1942

How to Save Money

(Continued from Page Thirteen)

ernment. And besides all that you will probably have quite a chunk of pocket change.

One of the best ways to make money is to buy a small printing press, a quart of green ink, and a few sheets of old paper-and turn out your own stuff. However, this is slightly illegitimate-and for that reason you may prefer one of the following plans.

The way to get hold of a lot of money in a very short time is to have a distant rich uncle-whom you never saw in your life-meet with an untimely death in his great diamond mine in South Africa-thereby leaving you his entire fortune and estate. If this has ever happened to you, what are you reading this for? (Ed. note: Why is anybody reading this thing for?)

Another-but slower-way to save money is to be a miser. You can be either (1) a close-fisted miser, who is the world's greatest exponent of the one-way pocket, or (2) an indifferent miser, who saves everything one day and spends it all the next. Neither of these types of misers are very popular with their friends-if they happen to have any friends.

Now we can consider some sure-fire methods of making big money in a comparatively short time-methods from which you can get a maximum financial return, with a very minimum amount of effort.

Plan 1: Start a factory for manufacturing quandries. Many people are constantly in quandries, and there should be a big market for them-if you have the right kind of a distributor.

Plan 2: At an early age begin smoking cheap menthol cigarettes. By the time you are thirty years old you will have enough money saved to re-line your throat.

Plan 3: Don't spit on trains, and street-cars. Thus you can save the amount of the fine you would have to pay-and, if repeated often enough, will soon result in a very tidy sum.

Plan 4: Buy up all the editions of next Thursday's newspaper. Then, by the time next Thursday comes, there will be a very heavy demand-due to the serious shortage-and you will be able to unload your investment at a very nice profit.

Plan 5: Equip yourself with a long string, upon the end of which is attached a moist piece of chewing gum. By dangling this contraption through the iron grates over sidewalks, you can often pick up quite a bit of small change. [Mr. E. P., of Denver, reports "I made 30 cents the first month!"]

Plan 6: Start a factory for manufacturing mistakes. Almost everyone makes mistakes, but they don't know how to market them. Since someone always benefits from the mistakes of others, you can manufacture ready-made mistakes-and then sell them to persons who will benefit most from them. (Ed. note: This whole thing is a mistake!)

Plan 7: Hundreds of laws are broken every day in the United States. And nothing is ever done about it! You can mend these broken laws, and then sell them back to the government at stupendous prices.

Plan 8: Instead of buying that car you planned for the summer-get a bicycle. You will not only save a lot of money this way, but you will also get a lot of exercise-and the little woman can ride in the side-car. (Ed. note: I thought a side-car was a drink!) (Author's note: It is, but I'm talking about a bicycle!) (Ed. note: I think you're nuts!)

Plan 9: There are many incompleted forward passes made during every football game. These passes, when completed by you during your spare moments at home, can be sold back to the colleges.

Plan 10: Any passes which you may have left over from Plan 9, can easily be disposed of by selling them to guys who can make them at gals. [Mr. Slugs McK., of Chicago, writes: "I never seed nuttin' like dat in me life!"]

Plan 11: When mailing letters, never put postage stamps on the envelope-let the addressee pay the cost of postage. In this way, the more letters you write the more you will save!

Plan 12: Stay away from poker games.

Plan 13: Start a factory for manufacturing dithers, for people who are excited to be in. (Ed. note: I thought a dither was a musical instrument.) (Author's note: Naw! You're thinking about a scissor.)

Plan 14: Snoop around back alleys and collect old papers, bottles and rags-which can then be sold at a handsome profit for junk.

If by this time you haven't given up the idea of trying to save money, it's too late to do anything about it.



The Broadcast Engineers' 17 Journal for May, 1942

Hollywood News

GREAT SF Opening Bomb Shovels and Bicycles No Spring Fog Yet O'Kelly to Army After 16 Years with NBC Books and Theory Replace Beach and Golf . . . More New Men . . .

. Veteran Jake O'Kelly, ex-senior control ARMY : supervisor in NY and since member of the Hollywood clan, has felt the call to duty and joined the civilian engineering group working for the 4th Interceptor Command. He has been named Engineer at Large, working out of March Field, California. Jake joined NBC via WEAF way back in 1925 or 26 and his history has been the history of NBC. Still single and therefore vulnerable for the draft, coupled with many years Army Signal Corps experience in and after the First World War, probably influenced his decision. We were very sorry to have him leave us, but know the old gang will be together again after it's all over .

Another good man to leave us is Jimmy Cunningham, who goes to MIT for training in a similar branch of Army-Civilian Radio. Jimmy hasn't been with us long, but made a tremendous hit with all hands, not only engineering. Jimmy has been the guiding light on the installation and relief mixing of almost all the major shows touring Army Camps, and to say that we haven't had a failure under some of the most difficult conditions imaginable speaks for his excellence both as an engineer and a diplomat Still another old timer in the same service, Ray Ferguson, was through Hollywood on his way to advanced training at the University of California at Berkeley. Ray reported

CONTROL APPARATUS by AUTOMATIC ELECTRIC

IN AMERICA'S leading radio broad cast studios, Automatic Electric remote control devices are used for the dependable operation of such important equipment as master control boards and announcers' cabinets, for program monitoring and switch-ing, and for other electrical control uses.

These devices have a built-in quality that is the direct result of over 50 years experience in the design and manufacture of communication, signaling, and control systems, utilizing the same engineering skill that revolutionized telephony with the automatic dial telephone.

A complete engineering and consultation service is available to broad-casting studios on any electrical control problem. Avail yourself of this service today by writing—

American Automatic Electric Sales Company

1033 West Van Buren Street Chicago, Ill.



STEPPING

SWITCHING

TELEPHONE, COMMUNICATION, AND SIGNALLING EQUIPMENT

The Broadcast Engineers' 18 Journal for May, 1942

By Bob Brooke

his life now one of figures and formulas. Has never worked so hard or studied so long in his life. Half a college Math course crammed in seven weeks. Sez he misses the beach and the gang. Hopes to be assigned to a Southern California outfit when he goes to field duty. Except for no tan, Ray is his old cheerful, peppy self. We'll miss him in the surf this summer . . . if we're still around ourselves . . .

SF OPENING . . . Four Hollywood engineers traveled to San Francisco to handle their commercials from the new Bay City studios during the grand opening week Talk about Hollywood press agenting . . . Whoever handled the opening up there did a job ten times as elaborate and terrific and colossal as the openings of Hollywood's Melrose and Radio City studios combined And color, Joe Arnone went wild; we were shocked and then delighted with Hollywood Radio City . . . but they are plain, dull, drab, colorless rooms compared to the



Ex-New Yorkers Carl Lorenz and Eddy Miller demonstrate their liking for the West with 33" steelhead trout taken from the Santa Ynez River on flyrods

new plant up north . . . Mixing consoles done in bleached mahogany and beige bakelite panels to match Control booths that would do justice to a lady's boudoir . . . Both the And champagne (California, of course) Blue Network on the third floor and the NBC on the fourth floor threw the dog-gonedest parties every night for a week I really think San Francisco was impressed and when you impress that town you've practically got to build another Bay Bridge . . . Anyway, we had a marvelous time and all voted the new studios to be the finest we had ever seen .

PERSONALS . . . Awfully good to see Gordon Strang again in SF . . . He sez he still likes California but it looks like the saturation point on Western construction has been reached and he'll have to go back to NY Joe Arnone jumping between SF and Hollywood to complete the new building up there and to lay plans for redecorating Hollywood . . . (Get out the dark glasses, men) . . . Also met Tom Phelan and Elmer Mead in SF . . . These are the boys responsible for the audio installation Swell job up there and they certainly gave the Hollywood fellows all the cooperation in the world And that goes for the regular SF gang, too, down at 111 Sutter . . . George Milne, chief of the Blue, also much in evidence around SF . . . A. H. Saxton, Western Division Engineer, tripped North for the grand opening (Continued on Page Nineteen)

Tom Gootee Joins Army

THE staff of the Journal announces with mingled regret and pride that one of our most active members, Tom Gootee, has left the Journal-and radio broadcastingto accept a commission in the Signal Corps of the U.S. Army. Henceforth our energetic and prolific ex-scribe will be known as Lieutenant Gootee-and much too busy with the

business of War to engage in any literary pursuits. But publication of his material will not cease immediately, since he submitted material far in advance of publication; writing of Christmas in April, and summer vacations in October; an indication of the tremendous amount of writing he accomplished in addition to his many other interests. And Tom was an established radio playwright in Chicago, with a long record of successful radio writing to his credit-a fact few people know about, just as he would prefer to have it.



Tom Gootee

Gootee's world-wide experiences have given him the broad background of having lived that few people attain even at old age. He was signally honored by the Chicago broadcast engineers when he was selected as number one man in the series, Who's Who in Chicago.

We are happy with the thought that Tom is now in a position to make a more positive contribution to the war effort, which will add another chapter to his already interesting and successful career.-Ed. S.

HOLLYWOOD

(Continued from Page Eighteen)

along with almost every Hollywood exec . . . George Milne came through Hollywood via Yosemite on his way back to New York Denny with his latest camera, a speed graphic, and still only a negative a year . . . Alice Tyler handling defense bonds for first floor . . . Bob Schuetz married to Helen Welty recently Don DeWolf and family doing fine . . . Daughter Dorothy toured with Sonja Henie troup all winter and now signed for skating part in picture at 20th Century . . . Pickett riding his new bike to studio from the ranch more than . . . Only drives when he has eggs to ten miles away . KOA Williams back from his Colorado vacadeliver . . . Jimmy Brown to SF for chapter general meeting tion . . . New men include DeGrazzio from the Biltmore PA system and Moyer from Canadian radio Jake O'Kelly's sister Gertrude going to work for Douglas Aircraft Korb, Lorenz, and Miller, our inveterate fishermen, out with the opening of trout season as usual and am sending the Journal some pictures of their recent Steelhead trip to the Santa Ynez River near Goleta Lorenz got the first big one and landed it after a thirtyminute fight with a light trout flyrod Boys report fish always tried to jump up a falls and if they got up would take lines and leaders with them Johnny Morris vacationing at home hear he has his ranch much enhanced with several new rooms, an acre of fruit trees, and a big victory garden



Review of Technical Press (Continued from Page Sixteen) Proceedings of the I.R.E. — April, 1942

A Secondary Frequency Standard Using Regenerative **Frequency-Dividing Circuits** By F. R. Stansel

A secondary frequency standard is described in which standard frequencies are derived from a 5 megacycle oscillator by a series of frequency dividers. The advantage of obtaining standard frequencies by frequency division rather than by frequency multiplication is pointed out and the characteristics of the regenerative frequency dividers used are discussed.

Color Television — Part I

By P. C. Goldmark, J. N. Dyer, E. R. Piore, and J. M. Hollywood

A brief history of color television and the reasons leading up to the CBS color television system have been presented. A general theory for color television, including color, flicker, and electrical characteristics, is also given. This paper includes a useful bibliography of patents, articles and papers, and references.

Water and Forced-Air Cooling of Vacuum Tubes By I. E. Mouromsteff

General laws of heat transfer from a hot wall to a moving fluid are applied to water and forced-air cooling of vacuum tubes. The calculated data are compared with experimental results. Rules for designing finned air coolers are outlined.

The Broadcast Engineers' 19 Journal for May, 1942



[This is the last Gain-Riding on the Airialto that Conductor Tom Gootee will chalk up for some time. As a Lieutenant in the U.S. Army his literary inclinations and radio activities are now under the control of the War Department-writing FINIS to his present series: Riding Gain on the Airialto.-ED.

DD to the curious by products of the radio quiz show -the semi-professional contestants: a group of freebooters who rove from program to program to snag the prize money offered. The existence of this group was recently revealed in New York-and its organization was inevitable, what with thousands of dollars being offered weekly by quiz conductors. They generally arrive early, grab conspicuous aisle seats, and are the first to answer calls for volunteers. They invariably give false names and home cities (away from New York)-since they know most programs prefer to have nation-wide representation. And they frequently concoct strange occupations, to give the em-cee a chance to inject humor in his chatter. Such are the trials and tribulations of quiz shows.

The draft is taking an increasing toll of radio actors and announcers. As a result there's been a great rush of untrained



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Prescriptions Filled . . . Prompt Repair Work

would be thespians to the networks-and women announcers to spiel the virtues of soap and such.

The people that aren't there provide the best foils for radio comedians! And fast growing is the select group of the "Unheard characters of the Airways." Wistful Vista's "Myrt" has become almost as personal as Fibber McGeebut she is only a myth-as are Mrs. Wallace Wimple and Uncle Dennis, of the same show. Portland Hoffa and Mary Livingston use their moms for dialogue bits. And of course there is always Gracie Allen's brother Willie-and the rest of her whacky and mythical relatives. Georgie Jessel's mother has been his established yet unheard stooge for years. All of which goes to bear out the fact that it's the little men and women who aren't really there who make the major comical shows comical. * *

When station WLAC in Nashville (Tenn.) launched a gala program in celebration of a power boost a few weeks ago, Penny Singleton (Blondie) was featured as the guest of honor-on a disc. *

Thirteen years in radio and still in his teens-is the record of young Walter Tetley, west coast actor portraying Leroy Forrester, nephew of the Great Gildersleeve. As the youngest "veteran" in the radio business, Walter looks back on the time he made his debut (at the age of five) when the only things he could read, he says, were "the first grade primer, the comics, and Variety." His first air performance was on Madge Tuckers Children's Hour, an NBC New York airshow; from which he graduated to the Lady Next Door and Raising Junior. After that Walter became a character stooge for most of radio's leading comic characters-finally winding up on the Great Gildersleeve Show, having attained a large measure of acting success in his early teens.

A radio listing recently noticed in a New York evening newspaper ought to prove the patriotism of something or other. Said same: "The Red Network presents Francia White in a program of blues songs."

Radio comedy has been whacked by the priorities situation, according to amiable Ransom Sherman, who writes: "The national conservation of rubber will restrain air comics from stretching old gags as far as in former seasons; that means less joke mileage and more brain perspiration for mike comedians. The curtailment of razor blades will have its inevitable effect on keen-edged scripts; and comedians will be forced to more ingenuity in maintaining sharp edges on their continuity-or else face the possibility of being shaved from the summer performing rosters. In short : Everything is geared to wartime philosophy. A black-out, from now on, is a preparation for air raids, not material for a Broadway skit.

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Blue Network Engineers out in Chicago don't mind the early morning duties of the Breakfast Club — and vocalovely Marion Mann is probably the biggest reason. Miss Mann hails from Columbus, Ohio — and used to be featured with Bob Crosby's band a way, way, way back when.

Marion Mann

Artie (Could be Kitzel) Auerbach, screwball dialectician on Al Pierce's Show, has a birthday in triplicate each May 17th. This year he celebrates: His own birthday; the sixth birthday of his character "Kitzel"; his third birthday with Al Pierce. And too, Auerbach will sit down and write a letter to his former boss, city editor of the New York Daily News, requesting another year's leave of absence—his eighth —for "further research in radio." For it was just eight years ago this spring that Auerbach left the city room of the News as an ace cameraman to write radio scripts—which led, in turn, to acting parts he had created in his scripts.

That roaring sound you've heard every now and then lately was caused by the brothers, Antonio and Geronimo Amati, spinning around in their seventeenth century crypts at what the lads in Roy Shield's orchestra call an Amati or any other kind of fiddle. In orchestrese, the finest product of the Cremonese fiddle builders is just a "scratch gut." And you have to be quick with your imagination, or you'll miss completely what instruments some of Shield's musikers mean when they cut loose with their patois. For instance, here's a sample of what they say and what they mean:

	the they thether
What They Say:	What They Mean
Banjo	Viola
Bazooka	Bassoon
Bubble pipe	French Horn
Bugle	Trumpet
Cheese box	
Corkscrew	
Fiddle	
Fiddle	Banjo
Fiddle	Ukulele
Mouth Organ	Piccolo
Ocarina	Clarinet
Rain Barrel	Bass drum
Scratch Gut	Violin
Skid Bugle	Trombone
Whistle	Flute
Zither	Harp

Shield's men and their assorted skid bugles, scratch guts, rain barrels and bubble pipes are heard Tuesday nights on the NBC-Red network.

Parting Thought: When telling a joke always make it as short as possible. Because if you stretch it out, you give the listener time to think of one to tell you.

The Broadcast Engineers' **21** Journal for May, 1942



the hallicrafters co. etilcago, U. S. A. Keep Communications Open

KFI — KECA Los Angeles News

By H. M. McDonald

TO KFI-KECA notes?" "Where's the KFI-KECA column?" "Why aren't we in the Journal?"

I respond, "Snowed under with other work" and add, hopefully, "How about one of you writing that column? I'll help gather items for you.

And then I hear three zips, like the slide whistle in the Pall Mall transcribed announcements, and the squawk-I mean -inquirers are gone. And I'm still the-GOAT.

Well, first off, I guess the most important thing that's happened since I last contributed a few notes a year ago was that thirty KFI-KECA men joined NABET, all enjoyed benefits and are duly appreciative and happy.

Next we must chronicle the marriage of George Tokar, KFI T.E., to Mary M. Lypps, of Fullerton. And next, the arrival of "bundles from heaven" at the homes of Ernie Wilmshurst, Lloyd Roe, Carl Estep, and Leland Patterson, three boys and a girl, respectively.

So far, only three KFI-KECA Engineers have gone to the armed forces, and all of them more than a year ago-Ray Walling and Glenn Litten to the Navy, and Bryan Cole to the Army. However, some other men are seriously

JACKPOT

Today, more than ever before, Radio Engineers are handicapped by a shortage of Radio Supplies and Equipment. They'll hunt high and low and pick up bits here and there.

But, more often than not, they hit the jackpot when they call on us because we've got the largest stock in our history and an efficient organization to deliver the goods to their complete satisfaction.

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considering offers which the Government is making to men with college degrees or other special training, and there'll be some changes made within the next few weeks.

New men hired since the first of the year include: Joe Dessert, in commercial radio hereabouts for 15 years; R. O. Cook, also an old-timer, who came this way from the Great Lakes and was more recently with Walt Disney Studios; J. E. Sutcliffe, who has been teaching in a Hollywood school; A. E. Laurent, who was with Globe Wireless here until they reduced their personnel after the Honolulu affair; R. Taggart, well known to radio men hailing from Pasadena.

New and handsome Hamilton gold watches and chains are now being worn by Messrs. Alexander, Everett, Christensen, Dilts and McDonald. They are engraved "In appreciation of ten years loyalty to Earle C. Anthony, Inc., and the Packard Motor Car Company."

Conversations in the Engineers Lounge indicate most of the bonus received at Christmas was used as a payment or for an improvement on their homes. Hidy and Leonard bought new places out in San Fernando Valley; Young bought in the Silver Lake district; Moore in the Outpost Estates, overlooking all of Los Angeles; and Dessert has just moved into his new place in Alhambra.

KFI is on the air 24 hours a day since last December, and Bill Erickson is the Studio Engineer on the Graveyard Shift. He came to KFI-KECA about a year ago, after four years in Honolulu, at KGMB and KGU.

Joe Dessert and Carl Estep have swapped jobs, Joe to KECA Transmitter, and Carl back to the Studios after several years at the RCA 5C.

If we were single like Jim Wright and had his swank station wagon we'd make a deal with the Army for a commission, while there is vet time!

Two-thirds of the engineers here are buying Savings Bonds regularly, through the Payroll Allotment Plan; more subscribing every day.

We miss the newsy column from WOR. Where's Schlegel?

Saw Bill Eddy, in a March of Time newsreel, explaining technical equipment to Navy men and later at a banquet.

Ray Walling, a veteran of the last war, long with RCA on this Coast before coming to KFI Transmitter a dozen years ago, is now a lieutenant-commander in the Navy, stationed at San Diego, in the District Communications Office.

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RADIO CITY

(Continued from Page Seven)

Other occupancy of the second floor includes sound effects room, two script conference rooms, musicians' room, artists' lounge and the necessary store rooms, lockers, service lobbies and wash rooms. Freight elevator and second stairway are at the rear of the building, available from O'Farrell Street.

Located on the third floor is the master control room, for the present encased behind an outstandingly novel mural. To the left of the elevators is the radio recording room, while at the right are studios H and J, for the presentation of transcribed programs.

RADIO CITY TOUR

(Continued from Page Ten)

agreed upon. I might as well agree with him, he had won every argument before, and *obviously* the border trim was tourquoise blue, edged in brown, and with sand linoleum. O.K., let's hurry into "E."

Studio "E" proved to be heavy chartruesse, trimmed with purple base and floored with grey linoleum. "F" was "dusty rose," two-toned brown for our base trim and tan linoleum on the floor. Let's hurry to Studio "G" and then we will be through with the important live talent studios.

Surprise! This studio was entirely different from any of the others, being the one that is to be reserved for the more intimate chats, such as home interviews, etc. Here, the room was entirely carpeted and was furnished beautifully with full living room furniture all very modernistic in type and color. "Beige" was the predominent color throughout, and instantly we felt the prescribed mood necessary to carry on any programs of the type which undoubtedly will eminate from this room. The control booth is fitted with turntables to supply the necessary theme music or interpolations which usually accompany programs of this nature.

Our color tour was practically over, and though we had enjoyed it immensely we were not sorry. Sorry only for the fact that our ignorance of modern interior decoration and color schemes had permitted the artists involved to so completely haffle us with the deceptive colors involved: and particularly sorry that we had not brought along some one of the opposite sex to inform us correctly. The colors arrived at and as mentioned are strictly our own deductions, and any similarity to the actual colors involved is purely accidental.

To become more serious, we both experienced the fact that in creating a new home for such an emotion-producing art as radio, it is obviously imperative to exercise far more thought and attention to vital details than merely utilizing hastily improvised facilities, or to follow a more commonplace track. There was every evidence that painstaking thought had been used to produce and to use clusive colors for decoration, colors that were definitely off the common standard of the primary scale as we learned it in school; colors that would create definite moods in the artist or mucisian, and he

Quarters of the Blue Network Company and the KGO staff are located on the third floor as well as general rooms for engineers, music and Thesaurus libraries, telephone switchboard, and photographer's darkroom.

NBC and KPO executives and departments occupy the fourth floor, outstanding features of which are the clients' audition room and the manager's offices. Entrance is obtained from this floor directly out upon the roof garden available to staffs of the entire building.

Except for a public parking garage in the basement and a portion of the first floor, the entire structure is devoted exclusively to broadcasting — a compact, well-arranged, beautifully designed structure—an ideal combination of radio studios, offices and facilities.

> in turn would convey that depth of feeling to his listener over the magic path of radio. We honestly feel that as NBC has led the field in radio in the past, NBC has stepped further out in front by producing the finest broadcasting plant it is possible for money to buy or that constructional or engineering genius can conceive. All this is represented in the new million dollar home, "Radio City" in San Francisco, which officially was opened to the public on April 26, 1942.



The Broadcast Engineers' 23 Journal for May, 1942

G. E. Merit Award to KGO

CTATION KGO won the General Electric Merit Award for the second year in succession, as the station in the Blue Network and National Broadcasting Company with the finest operating record in the nation from the standpoint of time lost. The award, a beautiful copper medallion on wooden shield, was presented to KGO's Chief Transmitter Engineer, A. E. "Shorty" Evans, by Ray M. Alvord, Vice-President, Western Division of General Electric, at a special broadcast over KGO in San Francisco. Setting a national record of only 23.5 seconds lost out of a possible 6600 plus hours operating time, KGO's General Manager William B. Ryan, responded to Mr. Alvord's congratulatory message, with an additional message given by E. T. "Buck" Harris, Manager of G. E.'s Short-wave station KGEI in San Francisco.



Presentation of G.C. Plaque to KGO. Left to right: C. T. "Buck" Harris, manager KGEL G.C. Short Wave S.F.; Bev Palmer, chief engineer KGO; A. C. "Shorty" Evans, chief transmitter engineer KGO; William B. Ryan, general manager KGO; Ray M. Alvord, V.P. Pacific Coast Division G.C.; Stuart Hannon, KGO producer

Cleveland News By Bert Pruitt

OHN HYATT transferring from Air Conditioning to the Studio Group. Welcome to the Sacred Order of the Platter Twirlers, John.

Charles Ames joining the same order.

James Hackett (SE) having a governor installed on his car before heading east on his vacation. Wants to make certain he has enough rubber to bounce back to Cleveland three weeks hence.

Grant Makinson (TE) and Lewis West (SE) are now in the East doing their share for the National Cause.

lerry Jerome (TE/SE) returns to the transmitter after a six-months stay at the studios. We miss Jerry here at the studios when we roll out the pills for a game of pill-pool. Jerry handles a billiard cue with the ease of a magician hoisting white rabbits from an inkwell.

Echoes from the Valley of 1930

Gene Hamilton gave us all a pleasant surprise when he dropped by the other evening. Time hasn't dimmed his memory in the least. He remembers the time that he, Tommy Cox (SE) and W. C. Pruitt (CS) corded me into the after end of a Model A. It seems that those three fellows were suffering from the illusion that I had become allergic to the second quart of bathtub gin.

It's a Big One

The sun was rapidly disappearing behind the bluff that stands silent guard at the entrance to Rocky River. A seagull poised momentarily in mid-air, then, like a bullet, dived to catch a three-inch perch chasing a dragon fly. Bass churned the water near a small rowboat. Two dejectedlooking fishermen sat grumbling . . .

"Can't understand why they aren't biting," said SOHIO REPORTER Harry Burge to Harry Caskey (SE)

Yeah. Me, too. I thought sure they'd take this Hellwobbler."

"What time is it?"

"Six forty-five," Caskey answered, returning the production department's stop-watch to his pocket.

"I'm gonna try a night crawler. I'll toss it over there by that doggy-looking yacht," said Burge, reaching into a tomato can.

"Wonder who owns it?" questioned Caskey, looking at the yacht.

Morganbildt Vander Steer," Burge answered as he thumbed his reel and the worm and sinker dropped near

the yacht's bow. "Good cast," complimented Caskey. "Only fair. I usually toss by jove I`ve gotta strike! Steady the boat. It's a big one!"

"Give him more slack!" shouted Caskey.

When Burge set the hook, the fishing line straightened out like vour Aunt Mollie's clothes line on Monday morning. An attempt to crank the reel merely moved their boat toward the yacht.

"Must be a channel cat." And Casket said this while reaching for the landing net.

"Acts more like a great-northern. Damn that yacht, they're getting in my way."

'Look!" interrupted Casket.

"Where?" inquired Burge. "There!" pointed out Caskey.

"Well, I'll be a How'd I ever hook that yacht's anchor chain?"

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TOO TOUGH A JOB FOR A MAN!

IN MAKING RADIO TUBES, vital to the war effort, it is not a question of training women to do men's work. Assembly of the delicate, lace-like grids and tiny filaments needs the feminine touch! It's something like threading a needle a thousand times a day—and a mere man just can't compete.

Slim, swift fingers are what it takes to fashion the sensitive mechanisms that

detect feeble radio waves and amplify them into sharp, clear signals. So go ahead, men, with your rivet-hammers and punch-presses. But when radio, with split-second precision, delivers an urgent message or a broadcast program—or safely guides ship and plane—give thanks to a *woman*'s skillful fingers!

Of the many thousands of workers in the RCA services, nearly two-thirds are women. Most of them do work essential

RCA

to the war effort, and more efficiently than a man could do it.

Radio Corporation of America

PIONEER IN RADIO, ELECTRONICS, TELEVISION

Radio City, New York

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