

# NATIONAL RADIO NEWS



VOL. 4—NO. 9

WASHINGTON, D. C.

APRIL, 1932



**E. R. HAAS**  
*Vice-President and Director  
National Radio Institute*

## EMANUEL R. HAAS

IT IS indeed surprising how chance will sometimes launch a man upon a career quite unexpectedly—may change the entire course of his future life.

Such was the case of E. R. Haas, Vice President and Director of the National Radio Institute.

Mr. Haas was originally in the theatrical business. It was while acting in the capacity of Assistant Publicity Director for Keith's Theater, here in Washington, that he had his first association with Radio—or "Wireless" as it was then called.

They were running an act at Keith's Theater entitled "Via Wireless" and Mr. Haas wanted to get a spark transmitter to use in the show. So he hunted up J. E. Smith, then instructor at Technical High School, Washington, and obtained the outfit through him.

His interest in "Wireless" was the result, and led to his association with Mr. Smith and the founding of the National Radio Institute with which Mr. Haas has been associated as Vice President and Director ever since.

Of course, during the troubled days of the World War, he, like Mr. Smith, was connected with the training of men for the Signal Corps. This service took him to Yale University and Camp Alfred Vail, Little Silver, N. J., where some eight hundred men were trained for the Army.

Although, by reason of the nature of his position, students hear very little of E. R. Haas, they indirectly profit greatly by his past experience, which includes Mail Order, Radio, and Theatrical.

Many years ago he predicted the universal use of Radio Broadcasting and Radio's use in Aviation. His keen vision still foretells a bright future in Radio—and great developments in Television and Radio's Industrial Applications.

# Why I Am Helping in the Fight Against Radio Interference

By P. J. MURRAY, Manager Employment Department



**H**AS it ever happened to you?

Have you ever been particularly interested in some fine program on your Radio and all at once got something on your speaker that sounded like a battery of machine guns crossed with a swarm of bees? "Plenty times," you'll reply if your experience has been anything like mine.

Radios are purchased primarily for entertainment. But a person certainly can't have much enjoyment with his set if he is to be continually bothered by man-made interference. Such interference displeases me, personally, and I know that there are hundreds of thousands of other persons who are likewise being hampered, in their efforts to get the best possible Radio reception, by this interference. That's one of the reasons I am fighting it, but I have other reasons also.

The present day trend in Radio receivers is toward super sensitivity. As practically every electrical appliance has the power to produce Radio interference, in a greater or less degree, these sensitive sets are naturally going to pick up anything in the way of such an electrical disturbance over a comparatively large range. No practical method has as yet been devised for correcting the interference problem at the receiver. Possibly later someone will devise such a means, but for the present the only logical method of dealing with the problem is to eliminate or correct it at its source.

The troublesome interference cases must be remedied if Radio reception in the immediate vicinity of the offending apparatus is to be good.

Now I have recently offered the full cooperation of the N. R. I. Employment Department to the Tobe Deutschmann Company of Canton, Massachusetts, which is manufacturing an interference eliminator known as the Filterette.

This appliance is made in many styles and sizes for different type jobs and has a very fine reputation for eliminating electrical disturbances at their source.

It is quite interesting to quote from a telegram sent me by Mr. Deutschmann, "At engineering meeting of Radio Manufacturers Association yesterday we mentioned the fact that your Institute was cooperating consensus of opinion at meeting was that answers to interference problems rest with service men and anything you can do to further interest toward interference protection will be gratefully considered by Radio manufacturers."

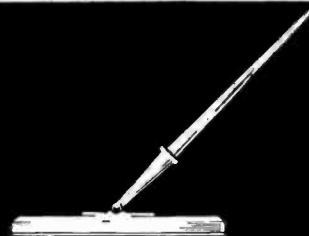
We can readily see from this that Radio interference is considered a serious problem even by manufacturers of Radio sets, and also that the service man is the person to eliminate it. The National Radio Institute has always been interested in cooperating with the Radio trade, and it is indeed a pleasure to have this opportunity to be of service to Radio Manufacturers and others whose business would be affected by this interference problem.

In addition to these reasons, there is another very important one why I am cooperating in this drive. It is because I want to see as many N. R. I. men as possible make money and it looks to me as though there is going to be a real money-making opportunity in the field of interference elimination for Radio service men.

Street cars, defective wiring, medical electrical apparatus, elevators, beauty parlors, are the principal offenders, but it is quite frequent that we will run across cases where the ordinary electrical household appliances create a job for the service man in cutting down man-made static also. Electrical vibrators, heating pads, washing machines, oil burners, vacuum cleaners—and many others all may, under certain conditions, cause Radio interference.

The problem has become such an important one that in a number of cities and towns it has created sufficient general interest to have laws passed which call for the correction of interference to Radio reception whenever it is detected. In many other places such laws are proposed and should soon be passed. All of this is going to make it easier for the service man to make money if he is properly connected and instructed in the elimination of interference.

# My Own page



## Pay Dirt

**C**ALIFORNIA—1848—Gold!

It all started when a man named Marshall, walking along a proposed mill-site picked up a nugget of gold—Pay Dirt.

Within a year, 100,000 men were fighting, digging; paying fabulous prices for food; going in tattered rags; dying from lack of proper medical attention—seeking a share of that yellow earth that was gold—Pay Dirt.

While some made fortunes all of them couldn't succeed so many returned empty handed, discouraged—broken in spirit. But there was a class of these men—men with a vision to the future—that saw golden opportunity in another form, not in the yellow gold but in the rich black soil—the fine agricultural land. California needed farms—it needed merchants, so these far sighted few took to the California fields and cities for their destiny. A goodly amount of the pay dirt which they had failed to find in the hills came to them through the mediums of business and the farm.

The easiest way out for these fellows would have been to give up in despair like so many of their comrades had already done. But no! The typically American pioneering spirit was strong with them and their reward was success. They made the best of a bad situation and reaped a harvest of the coveted Pay Dirt.

1931 was a tough year on the Industry of the Nation. Some men succeeded, but many suffered. Many will continue to suffer for years to come as a result. But there are others, men who have profited, not in gold, but in experience, and who, guided by this experience will now reap a harvest of Pay Dirt.



## Pay Dirt

To them 1931 is ancient history, even as individual failures in the gold rush soon became a thing of the past to the settlers in California. They will not sit back and bemoan the lack of business—the absence of money-making opportunities. They will work hard, early and late. They will get out and Dig. They are going to put pay dirt in the bank account while the other fellow is busy discussing the lack of opportunity with sympathetic listeners.

But get this straight. This pay dirt will not lie on the ground where any one can pick it up. The gold is under the surface and it is necessary to dig it out—with brains instead of a pick and shovel. But it's there, nevertheless, waiting.

There is plenty of merchandise, Radio sets, Radio Service, to sell. There are people to buy. Americans still love to spend—still want the good things of life. Every swift second of the 24-hour day sees somebody buying something.

To the pessimists this year and many to come will be ones of sore depression and financial indigestion but to the fellows who really want to get somewhere, to the fellows who are willing to tear the crepe off the door—look hard, dig hard, put on their rose colored glasses and sing the new National Anthem—“Happy Days are Here Again”—the red ink of depression will dry up in the bottle and turn to Pay Dirt.

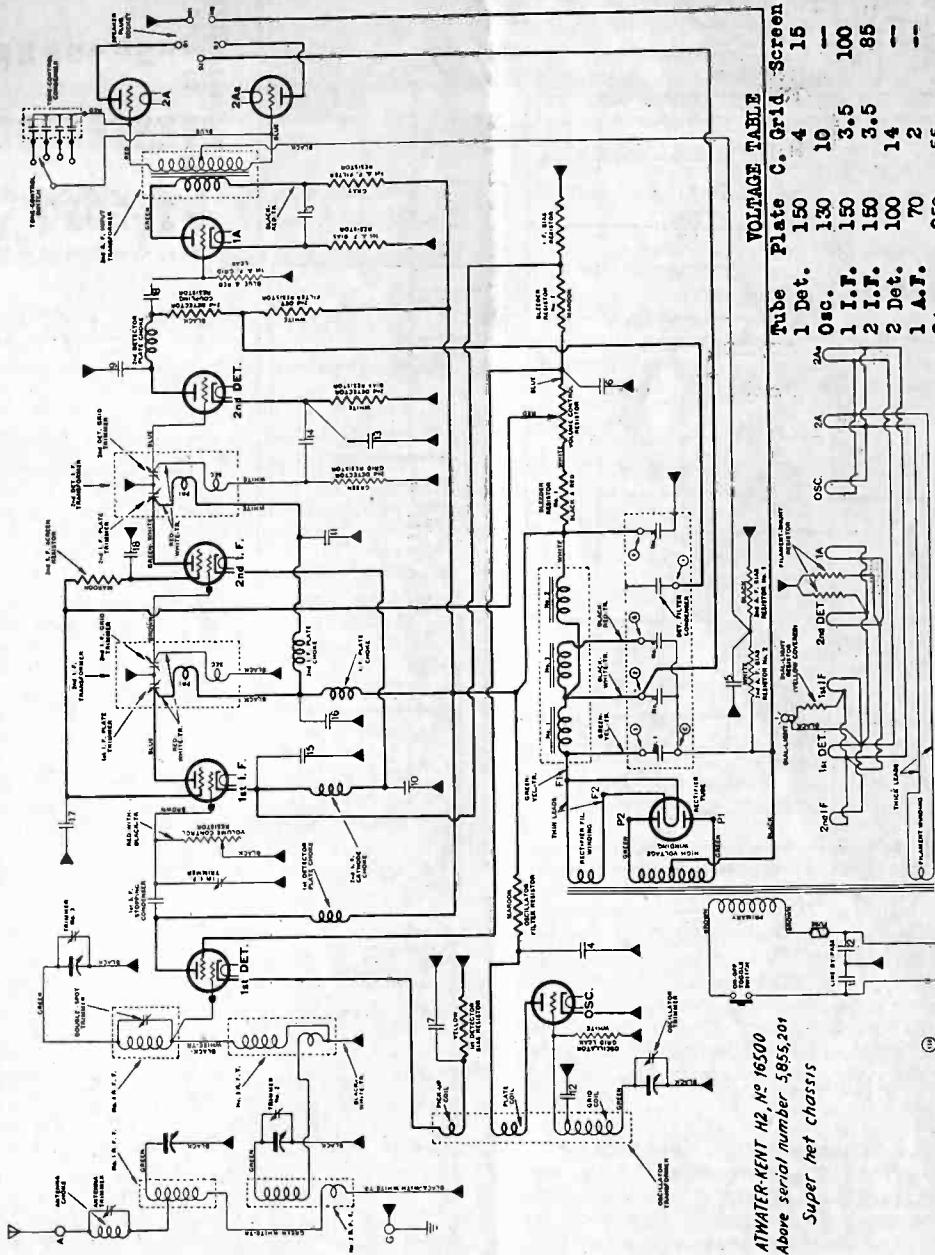
*J. E. Smith*

President.

# RADIO-TRICIAN SERVICE SHEET

REG. U. S. PAT. OFF. COMPILED SOLELY FOR STUDENTS & GRADUATES

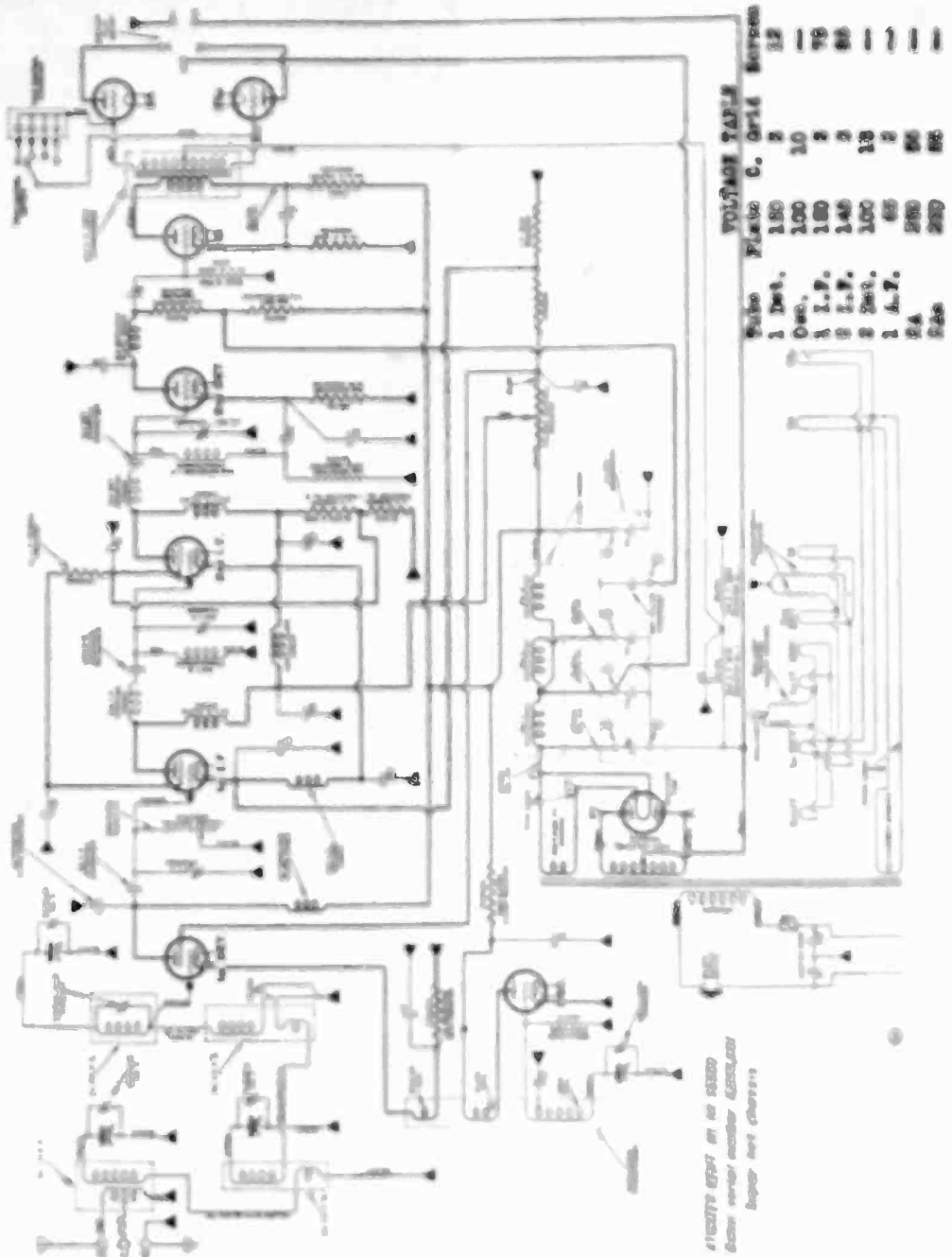
## Atwater-Kent Superheterodyne Receivers, Type H Chassis



ATHWATER-KENT H2, No. 16500  
Above serial number 5855,201  
Super het chassis

Readers who file Service Data in separate binders remove page carefully; trim on dotted line for same size as Data published heretofore.

Atwater-Kent Superheterodyne Receivers, Type H Chassis



# NATIONAL RADIO NEWS



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Published monthly in the interest of the students  
and Alumni Association of the  
NATIONAL RADIO INSTITUTE  
Washington, D. C.

E. SMITH, President.

E. R. HAAS, Director.

The Official Organ of the N. R. I. Alumni Association

## Correcting a Hum

By J. B. Straughn, N. R. I. Technical Staff

A SHORT time ago I was consulted on a very interesting case. A dealer had a receiver in his shop which used an A.C. dynamic loudspeaker. He stated that the complaint was an annoying 120 cycle hum.

I placed the receiver in operation but could detect no hum whatsoever. On questioning him, I learned that he had not been able to get the receiver to hum either—it evidently only hummed when in the customer's home. This made it necessary to make repairs at the owner's home with the receiver in its normal surroundings.

I removed the set to the residence and I put it in operation before installing it in the cabinet. The receiver worked perfectly, which led me to believe that the hum was of an acoustical nature. As soon as the receiver and speaker were installed in the cabinet, the hum appeared and it was quite annoying.

To be sure that the hum was in the speaker I disconnected the voice coil and shorted it. This convinced me that it was the speaker and not the set.

To reduce the hum I tried connecting a 2000 mfd. dry electrolytic condenser across the field coil. Before I did this, I made sure that the field coil was not supplied with a high voltage as this would have caused the condenser to have broken down. The voltage across the field coil was approximately 12 volts D.C. The condenser did not reduce the hum in the least.

I tried moving the cabinet around in different positions and placed it on the rug. Still the hum did not diminish.

I thought that perhaps reducing the size of the baffle would eliminate the hum by decreasing the response of the speaker to the low notes. The speaker was pulled back from the front of the cabinet about three inches, and presto—the hum was gone.

The slight decrease in response to the low notes was hardly noticeable as the hum had interfered with their reproduction anyway. The customer was well pleased as the receiver had never been free from hum since it had been purchased.

Since then I have used this method several times to decrease the response to low notes—especially when a critical customer objected to the "barrel tone" effect of a new receiver. Decreasing the size of the baffle results in an apparent increase in response to the high notes, and at the same time it cuts down on the response to the low notes.

In all probability the difficulty could have been solved by securing a 10 henry low D.C. resistance choke coil and placing it in series with the present speaker field. This would have been expensive, however, and it might have still been necessary to have used two dry electrolytic condensers, one connected across the field and the other to the input of the choke coil. If the customer had objected to the decrease in response to the low notes, it would have been necessary to have used the extra choke and filter condensers as this would have served to have given a better filtering action in the speaker field circuit but would have had no effect on the low notes coming from the receiver itself.

In regard to the problem in the last issue of the News, on the Atwater Kent, Model 37, if the sealing compound is soft and cannot be cracked up as described, the power pack may be placed in an ice box for several hours to make the compound brittle. It will then chip easily. To prevent the hammer marks from showing up on the side of the case when it is replaced, you should strike only that side of the case which faces the side of the metal cabinet.

The real test of a man is in his ability to come back smiling after a knockdown. Most any fellow can grin when things come his way, but if he can stand up for more after taking it on the chin—he's all man.



# What We Need Is Confidence

By J. E. MILLER, N. R. I. Statistician



**T**HERE is slight chance of a successful campaign for the Army which has no confidence in its general. But on the other hand, give a comparatively small force complete trust in its officers and battles may be won against overwhelming odds.

One of the chief causes of the depression through which we have been passing was the lack of confidence. People were afraid of the banks and the banks felt the same way about the people. The manufacturers had no confidence in the buying public, neither had the wholesaler and the retailer.

So the manufacturer curtailed production and threw men out of work. The men quit buying things—and he curtailed still more. Those factories which desired to continue making and selling began price cutting intended to make the public buy.

Banks began to fail because Mr. Panic Stricken Public wanted to feel his dollars in his hand rather than trust them to the banks. Then came the general crash insofar as banks were concerned. Steady withdrawals depleted their cash. Lack of confidence in Wall Street had forced the securities market down to nothing. Banks could realize only a fraction of the value of their securities due to the deflated market. Lack of confidence was working like a chain letter. The farther it traveled the worse it became.

But almost over night confidence seems to have been restored. It was the introduction of the Glass-Steagall Bill into the United States House of Representatives that worked the miracle. New York stock exchange values jumped \$7,000,000,000 in two days. Wheat rose two cents a bushel. Cotton moved a dollar to the bale.

The bill itself is technical, but boiled down to simple terms it merely means that banks which are members of the Federal Reserve System

will be able to borrow money from the Federal Reserve District Bank on a wider range of securities and a more lenient basis than heretofore. It means loosening up money—more money available for carrying forward the affairs of the people. Above all it means the return of confidence and with that will come Good Times.

Radio has not gone to the low level in this depression that some other industries have reached. The public, when its purse strings tightened, stopped buying lots of things. They did without a lot of the luxuries they had been purchasing—they even discontinued a number of commodities which were staples—not luxuries at all. And true—Radios were not sold as in the few years previous—but they were sold in sufficient quantities to keep the wolf from the door of Radio.

In addition, the use of Radio Principles in Industry—electronics—kept things moving. Practically an endless chain of new uses for electronics have been developed. Television has been going steadily forward and the broadcasting field weathered the storm well.

Now that the recovery is at hand and everything has turned to reconstruction, Radio will have the decided advantage. It has not been so ill, therefore its period of convalescence will not be so lengthy. This return of public confidence should put Radio way out in front with manufacturers, wholesalers, and retailers working as in the good old days with the buying public showing an increased interest in the new developments in Radio and the Radio-Trician cashing in all around.

And speaking of confidence, Dr. Lee DeForest, quite properly termed the "Father of the Vacuum Tube," who for years has expressed doubt as to the future of Television, now states that he is sold on the outcome of this branch of Radio and expects to see it in full commercial use by 1934.





## GIVE HIM CREDIT

By W. W. Saunders, Jr., Credit Manager

The American people have become so accustomed to the installment plan of buying that they naturally expect not only to purchase their Radios, but also have their service work done on the credit basis.

The Radio-Trician, in business for himself, must get around to the point of handling service on open account just as soon as he possibly can. He will surely profit by this move.

In the first place, by so doing, he will place his business on a modern scale. Nearly all business in this country is operated on credit. The man who will not keep up with the times—who will not consider credit business, will find that he is limiting his market to the very small minority who pay cash and is at the same time restricting his field so that he will prevent the normal growth of his business.

When a repair job has been finished on a customer's set, the service man should attempt to collect cash, especially if the amount is small, but if the customer shows any tendency toward having the amount charged, then, provided his credit is good, the Radio man should have no hesitancy whatever in charging it to the customer's account and effecting collection at a later date.

Whether it be a sale of a new Radio receiver or an expensive repair job—the average family which could not afford a high price set or expensive repairs, can and does cheerfully respond to the Radio man's invitation to pay only a small amount down and the balance spread over a period of months. So many other dealers and service men are offering the deferred payment plan that it is necessary to go into this type of business to meet competition. American processes have worked around to a point where anyone selling a commodity that costs \$75 to \$100 or renders service that may result in an expense of from \$15 to \$50 must eventually go into the installment field if his business is to succeed.

But just because you are operating for credit instead of for cash, you are not necessarily to grant terms to every Tom, Dick and Harry

that comes along. Remember that your money is tied up in that Radio set—you also have valuable time and material invested in the service job, and unless you are reasonably sure to get your money out of a job—it is better not to take the job or make the sale in the first place. Anyone who desires to purchase on time has had enough experience with that type of business to know that he is expected to give credit references and you will find your trade will not resent your asking for them. It is just an accepted form of commercial procedure.

Just as soon as the business reaches any size, it is usually found that the capital of the business will not permit handling credit without assistance. It is therefore necessary to make arrangements either with a local bank or a finance company to take over the accounts after they have been sold, and pay you the contract amount, less a certain discount, which gives you back your working capital. It must not be thought, however, that your responsibility ceases with turning over this paper to the finance company and getting your money. It does not—as you become an endorser of the customer's note and therefore have a contingent liability until payment has been made in full. If the customer does not pay, the finance company will hold you responsible after reasonable efforts for collection have been made. This being the case, pick your credit customers carefully.

Credit has become so universal in this modern world of ours that the person who does not use it is looked upon with a certain amount of suspicion. This may sound like a wild statement, but you know yourself when you hear someone has just purchased a suit of clothes or an overcoat and paid cash for it, people are liable to make the very human and natural remark, "What's the matter; can't he get credit?"

Make your credit arrangements just as soon as you can after starting your business, because they will give you a free and unhampered movement in your business and also a valuable sales point in being able to sell on time.

# STARTING AND OPERATING A RADIO BUSINESS

## Part II

*In the March issue of National Radio News, we discussed the preliminary considerations for getting started in a Radio Business. In this issue we take up the important consideration of properly analysing the field.—EDITOR.*

There's a little town in Maryland with a population of about 350 persons, which is the buying center for quite a big country territory, and which three years ago boasted three Radio Dealers. Later a fourth dealer put in his appearance and now this newcomer is the only one left in business. The other three are either out of the Radio business entirely or handling some other line of merchandise.

Naturally the writer wanted to know how he did it—how he had the nerve to open shop in the center of that competition and how he finally won out. Here's the story as the dealer gave it to me: "I'd heard a lot of how those fellows who were there first handled their business so I took a Radio to one of them and asked to have it serviced. I had purposely moved some connections around a bit. When I got it back it worked—but not properly. One of the crossed wires was still crossed.

"The set then went to another of the dealers. After a week he got it straight and the set was returned with a bill for \$16. This gentleman decided that I needed a new set of tubes and several pieces of apparatus. A few days later I took the set, in perfect operating condition to the third dealer and explained an imaginary hum to him. He nodded wisely and told me to return in a few days. I did, and was greeted with a smile and a bill, and 'nothing much wrong—just needed a new set of tubes.' That was the reason I decided that I could operate a successful Radio business in \_\_\_\_\_, Maryland."

The point is simple. This man saw that dealers in a particular locality were not serving their public properly. Bear this point in mind, when you are looking for the location for your Radio business.

Be careful in figuring the population of the city or town in which you will do business. The rated population is often misleading, par-

ticularly if the town draws heavily upon a suburban or country trade. Country business is good business.

Will your business be located downtown in one of the larger cities where you have the advantage of a great number of persons passing your door—but where rents are usually high, or will you locate uptown, out of the high rent district and cater more to the neighborhood trade? There are arguments in favor of both. Most persons would rather deal with a nearby organization for service because the service man can reach the home more rapidly. And there is no doubt that a lot of sales fall the way of the neighborhood man, due possibly to the advertising done by community organizations to stimulate "deal with your neighborhood stores." Furthermore, by being uptown you are not in direct competition with the large department stores. On the other hand the advertising of the large stores draws the crowds downtown. Theaters do the same and those crowds mean business. And then, there is a class of people which will only buy downtown, considering that the stores and the personnel are more modern. All this must be given consideration and measured according to the traits of your local public.

Study the buying tendencies of the community. Do the people buy for cash or on time. If possible ascertain what percentage of each. If you are considering your home town or some other city you can usually get this information from the bankers or the local board of trade. If they are credit buyers—and most persons are nowadays, consult a banker as to the best way to have the financing problem handled. It is a good plan to talk things over with a banker in the community in which you will operate, especially in uptown locations, as he will be able to go into details regarding his particular section. Make a friend of the banker. He can do you a lot of good. You may eventually need to get additional capital to further your enterprise and the more he knows about the operation of your business the more willing he will be to help you.

*This series will be concluded in the next issue of National Radio News.—EDITOR.*

# RADIO-TRICIAN SERVICE SHEET

REG. U. S. PAT. OFF.

COMPILED SOLELY FOR STUDENTS & GRADUATES

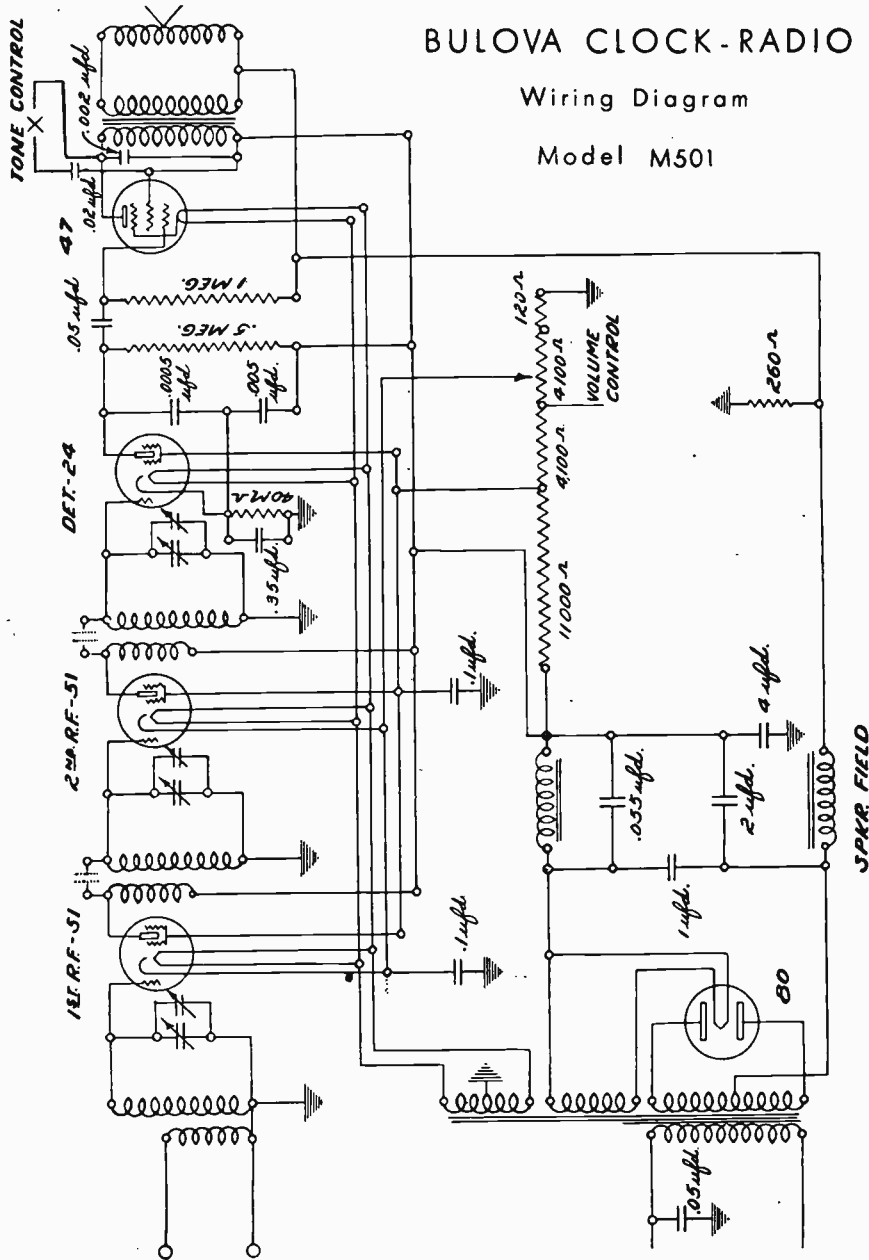


## Bulova Clock Radio—Models M-501 and M-701

### BULOVA CLOCK-RADIO

Wiring Diagram

Model M501



Readers who file Service Data in separate binders remove page carefully; trim on dotted line for same size as Data published heretofore.





# ALUMNI *News*



## Television's Trend

By H. E. LUBER,  
N. R. I. Assistant  
Director of Publicity

I have been watching the development of Television for a long time and I'm fully convinced that its rise will open up opportunities equal to Radio itself. While Television is a branch of Radio, it will be so revolutionary and in such demand that it should sweep the country with an impetus only approached by its parent Industry, Radio.

It was a great pleasure to witness a demonstration of the Jenkins System of Television a short time ago at the Wardman Park Hotel, here in Washington. The test was made in conjunction with Radio Station WMAL of this city. There is no doubt that Television, as shown in this demonstration, is making strides toward perfection, but there is still a lot to be done, a wide range of opportunity for development by trained men.

Television has struck the fancy of elderly people, as was evidenced by the number of persons of mature age attending the demonstration and this is important. When Radio was young only young fellows took to it. Older folks looked upon it as a game—something not worthy of their consideration. When we stop to consider that these older people represent, to a great extent, persons capable of buying—their interest does speak well for the future of Television.

## THIS MATTER OF LICENSES

By Henry K. Bradford, N. R. I. Consultant  
on Aircraft and Commercial Radio.

I am frequently asked if it is necessary to hold an amateur Radio license or have amateur operating experience before one is eligible for a commercial operator's license examination. It is not.

There is absolutely no connection between an amateur certificate and a commercial "ticket" of any class. In fact, there is no previous experience requirement on a license of any kind except in the cases of Commercial First Class and Commercial Extra First.

There also appears to be some confusion as to the different names applied to the Codes. There are only two Codes with which we are concerned, namely, American Morse and Continental Morse. The Continental Morse, sometimes referred to as International Morse, is the regular Wireless and Radio Code. American Morse is Land-Wire Code. It is not used in Radio transmission though quite frequently is used for communication between stations equipped for the purpose. It is the Code used by railroads and the large telegraph companies.

The only American Morse requirement, for the Radio man, is in the case of the Extra First Class Commercial License Examination where a speed of 25 words a minute transmission and reception is required.

I'm listing below the more important license grades with their Code speed (both transmission and reception).

Page 14, please

**THIS MATTER OF LICENSES**

(Continued from Page 13)

License	Code Speed		
	Continental	American	
Com'l Extra First..	30 Plain Language	25	
Com'l First .....	25	"	No
Com'l Second .....	20	"	No
Com'l Third .....	15	"	No
Broadcast Unlimited	20	"	No
Broadcast Limited.	No	"	No
Radio Telephone ..	No	"	No

It usually requires one full day to take the examination for a license of any grade. Where code is required in the examination that part of the test is given first. If that is passed, then the theory examination is given.

An applicant failing on an examination for a license of any grade is required to wait three months before he may be re-examined. But on the other hand—if he passes a test for any license he may take the examination for the next higher grade immediately provided he has the required qualifications.

It is therefore a good plan to start out with an examination for a lower grade license and continue up the scale as far as possible.

**DON'T OVERLOOK THE AERIAL**

By Kenneth Van Der Wal  
(Alumni Member)

I just repaired a Radio which nine service men from the stores could not fix. It was a Zenith Model 52 troubled by fading. When the set checked perfect I directed my attention to the aerial. It was crossed by two other aerials. After straightening this matter out the set worked perfectly.

In response to our notice on page 16, March issue of National Radio News, we have received quite a number of letters written to Radio-Tricians by satisfied customers. We want still more. Send yours. And be sure to note on it, "Permission for publication granted," and sign your name. Address your letter to The Editor, National Radio News, 1536 You Street, Washington, D. C.

Page Fourteen

**Trade Notices**

Trade Notices are published only for the information of readers. No responsibility is assumed in passing this information along—and all transactions and correspondence **MUST BE WITH THE FIRMS DIRECT.**

**INTERFERENCE ELIMINATION**

A most interesting book "Radio Noises and Their Cure" has been published by the Tobe Deutschmann Corporation, Canton, Mass. It deals with interference in all its forms and shows the proper method of correction. Fifty cents—sent direct to the Tobe Deutschmann Corporation will secure you a copy of this seventy-five page book.

**NOTICE**

Kladag Radio Laboratories, Kent, Ohio, referred to in Trade Notices for February, do not supply their booklet "Over The Soldering Iron" free. It is a part of a special service of theirs. The price is fifty cents.

**FLECHTHEIM**

A. M. Flechtheim and Company, Inc., of 136 Liberty Street, New York City, manufacturers of a complete line of the finest quality paper-dielectric condensers, announce that their new 7,000 volt type ZX transmitting units are fast finding favor with Television Stations.

Today, more than 450 broadcasting stations in the country employ Flechtheim superior transmitting filter condensers.

Catalogs No. 23 and No. 24A containing useful information regarding all types of condensers for various circuit requirements will be sent upon direct request to the Flechtheim Company.

**MILES REPRODUCER CO.**

The Miles Reproducer Company, Inc., 26 East 22nd Street, New York City, manufacturers of Sound Amplification Systems, has offered to give N. R. I. men a 30% discount on equipment they manufacture. They will supply bulletin and catalog on request.

# THE MAILBAG



Noel W. Ray is in charge of Radio Sales and Service, Sears Roebuck & Company, Gadsden, Alabama.

## FADA SPEAKER

After testing and retesting a Fada receiver and finding everything all right I'll admit I was puzzled. The complaint was weak volume and mushy tone. This set has an A.C. model speaker. I pulled out the field supply plug and tested for voltage. It was O.K. I put the plug back in and to my surprise the set worked O.K. The plug didn't make good connection. Bending the plug prongs outward remedied the trouble.

WM. HUSARIK,  
Chicago Heights, Ill.

## DOUBLES PROFIT

Radio business is growing very nicely and total profit for 1931 was a little more than twice that of 1930. I find that the more I work at, and study, Radio the better I like it.

RALPH HADLEY,  
Westport, N. Y.

## A Letter Used by Graduate F. Cruypelandt, Floral Park, N. Y., to Obtain Service Work

Are you satisfied with your present Radio repairman—does he give you the service you expect of him—is he reasonable in his prices and does he guarantee his work?

If your answer to these questions is "Yes" then I advise you to stick to your present repairman.

But on the other hand if your answer is "No" to any of these questions, (and it probably is) why not try a dependable Radio-Trician, one who has been trained to do Radio repair work by the National Radio Institute of Washington, D. C., the oldest and largest school of its kind in the world, a man who has also had two years experience rendering satisfactory Radio repair service.

You'd send for a good reliable doctor if anyone in your home should be ill. Give your Radio the same advantage. It is a marvelous instrument—it doesn't ask for much attention—give it the advantage of capable service by one who knows its ills when it is "under the weather."

I give prompt attention to every call. I give you first class guaranteed service. My prices are most reasonable. That's the kind of service you've always wanted—can you afford to get along with less? Will you give me a call the next time your Radio needs the attention of a Radio-Trician?

## STUDENT MAJOR TAKES TO THE SEA



The S. S. Jalaputra of which student D. S. Major, of Bombay, India, is Chief Radio Operator. Major gives his N. R. I. training credit for his success.

## SILVERTONE III

The owner of a Silvertone Model III Receiver complained that there was an abnormal amount of hum in his set, and the slightest jar (moving anything in the room in which the receiver was located; or even barely tapping on the receiver itself) would cause a very bad scratching and crackling noise in the speaker. I tested for loose connections in both the chassis and the speaker. Both seemed O.K. But when the power-pack was separated from the receiver the disturbance ceased. Finally found the trouble to be in the three electrolytic condensers in the power-supply. They screw into sockets something like an ordinary light bulb. The small spring connections in the bottom of the sockets had worked down so that they broke the connection when subject to even the slightest jar. The set worked fine, after I took a small screw driver and bent the little prongs up, so they would make a good connection with the bottom of the condensers.

H. W. LAWTON,  
Lincoln, Nebr.

## ALUMNI MEMBERS

The Alumni Editor wants to hear from you. We want your tips and Radio ideas. Please do not send these articles in with regular lesson or other mail to N. R. I. but address them to the Alumni Editor.

The adverse winds of depression have wrecked many a man's cottage of dreams. But the foundations will still be there; why not build a castle on them?





Work progressing rapidly on Radio City in the heart of Manhattan

### HISSONG'S PLAN

I have found a stunt for keeping my name before the people whose sets I have serviced.

I had some small gummed stickers printed with my name, address and phone number and a blank line.

When I test a set, I paste a sticker on each tube marking the reading and the date.

A. L. HISSONG,  
Rockford, Illinois.

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### 80,000 WATTS

Reports from abroad indicate that, even with unsettled economic conditions, Radio continues to forge ahead.

For instance, the Irish Free State Government is erecting a new 80,000 watt broadcasting station at a cost exceeding \$350,000. It will be located in the vicinity of Athlone and is scheduled for completion in September, 1932.