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KNOW YOUR COSTS

Where does your money come from, and where does it go?-these are two simple questions which have determined the success or failure of many a man starting up a business of his own.

There is a fair charge for each piece of work you do; excessive charges give high profits temporarily but result in failure through lack of business in the future, and too low profits or even losses on a job are just as disastrous. In order to determine the proper charge for each job, you must keep records of your expenses and your income, just as is done in any other successful business. These records need not be complicated-in fact, you will marvel at the simplicity of the system described in this lesson.

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A LESSON TEXT OF THE N. R. I. COURSE WHICH TRAINS YOU TO BECOME A RADIOTRICIAN & TELETRICIAN (REGISTERED U. S. PATENT OFFICE) (REGISTERED IL S. PATENT OFFICE)

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RADIO ACCOUNTING AND RECORDS

A Simple System of Records

 $T_{\rm end}^{\rm HERE}$ are certain basic dollars vantage to employ an accountant to and cents facts that a man must know about his business to operate it successfully. The simplest possible system of records that will give you these facts is the best system for you. Elaborate records have no place in a one-man business. Your records, on the other hand, must be adequate to fit your needs, and give the necessary figures that are required for proper management and planning. Your records must be set up to provide adequate figures for the preparation of State and Federal tax returns statements that may be required by your bank should you desire to borrow, and financial statements as requested by Finance and Credit Companies. If you expect to grow and prosper under present-day competition, you must start at the beginning to use the tools of business. Figures are the tools of business, just as meters, screwdrivers, and soldering irons are the tools of the repair man.

► We recognize that you cannot spend much time on accounting work, so in this lesson we have planned a very simple Accounting System.

When your business grows and a more elaborate system of records becomes necessary it will be to your adinstall such a system, and you should hire a bookkeeper - typist - telephone clerk to do the office and clerical work and relieve you of this detail. Your job is to get out after the business, render satisfactory service, and bring in the profits.

▶ In the beginning, as you build up your volume of service work, you will need to know the exact cost of doing the work. How else can you know what to charge to make a profit? You must know how much profit you make and where the profit is coming from. You-must know how much money you take in, where it goes, what is owed to you, and exactly how much you owe.

There are other facts and figures that may be helpful in building up your business. Those just mentioned are the essential ones, however. You will find them all included in the simple system described in this book.

If you follow the rules given in this lesson, you will be well on the road to success. If you do not follow them, you take the chance of becoming a complete failure as a business man. and this will be true no matter how skillful you are as a Radiotrician.

Income and Expenses. The first essential of any system of records is

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that a *complete and detailed* account be kept of all income and all expenses. Therefore, we will start with a record of cash received and payments made.

CASH

The first rule in our system is extremely simple; for that reason, it is easy to neglect it. This rule is sound accounting practice—and sound business sense as well.

► Rule No. 1. All cash that comes in to the business and all cash that you receive for your service work must be deposited—without deductions of any kind—in the bank. If the receipts are large enough to deposit daily, make a deposit every day. If not, then make your deposits twice a week. Establish this practice in the beginning and stick to it.

Maintain this practice by keeping all personal funds and expenses separate and distinct from those of your business. If you mix them, there will be no good way of determining the profit your business is earning, and the whole purpose of these simple records will be defeated. For your personal needs such as clothing, salary, etc., draw a check against your business and payable to yourself, stating clearly on the stub of the check that it is for personal use. The reason for this rule will shortly become apparent.

Petty Cash Fund. You will naturally ask, "If I put all the money in the bank, how will I pay for the many small items that I have to buy for the business, such as replacement parts, stationery, office supplies, etc.? These small expenses come up every day. I

have to pay for them with cash." You will handle this in the manner used by nearly every business, large and small—by the use of a petty cash fund. Write out a check payable to yourself for \$5, \$10 or \$15, depending on your requirements. Put this money in a safe, convenient place. This can be a box or a drawer, or even a special wallet or money pocket. The important thing is to keep it strictly separate from all other funds.

Pay all small bills chargeable to your business from this fund. As you spend the money from this fund, place a receipt or slip of paper in the money box, showing the exact amount of money spent, what it was spent for, and the date.

The total of these receipts and slips plus the balance of cash left in the fund should at all times equal the total amount of the fund you began with. Thus, if your original petty cash fund is \$10 and the balance of the cash on hand is \$4.18, you should have receipts, slips, and tickets accounting for the expenditure of \$5.82.

You may be out on a job and find it necessary to buy some small part out of your pocket. Be sure to collect from the petty cash fund when you return. A large part of your expenses will be paid from petty cash, and strict adherence to this rule is even more important to you than to a larger business.

When your petty cash fund gets low, take all the receipts or memos, and add them up. Write out a check payable to yourself for the total of these receipts, cash the check, and place the amount received in your petty cash fund. The cash from the check, added to the amount remaining in the fund, should bring the amount of cash on hand to the original figure. Repeat this procedure as often as necessary. The receipts and memos should be clipped together or put in an envelope, marked plainly with their total and the date, and filed away as shown in the section "A Voucher System."

Cash Receipts Record. For our record of cash received we shall re-

put into the business. The last column you will note is reserved to show the deposits in the bank. At the end of the month add the column showing the *amount* received. Then add the column showing the amount *deposited*. If you have followed rule No. 1 and if your figures are correct, these two totals will agree.

A VOUCHER SYSTEM

It is as important to keep a record of all payments made by the business as it is to record all cash received. It is necessary to buy shrewdly and

 	Cash Seccipts		····
Date	Eash from Jor	amount	Deposited
Jan 1	Tom Brown Juber	2 70	1
 1	Sam Jones. Service fob #1	590	
 1	Tom Imith Service for #2	600	14 60
 1	John Student Invested in business	100 00	100 00

FORM 1

quire a standard blank book which can be obtained from practically any stationer. Be sure to get one that is "journal-ruled." Forms 1 and 2 illustrated in this book are made on journal-ruled paper.

Turn to the middle of the book and head one of the pages Cash Receipts. This part of the book will be your Cash Receipts Register. Head the columns as shown in Form 1, Date, Cash from, For, Amount, and Deposited.

▶ Now for Rule No. 2. Enter faithfully in this book all cash received, including the personal cash that you watch expenses carefully. It is equally necessary to know at all times how much you owe, which items are due, the bills that have been paid. and the date that they were paid. A properly kept voucher system will give you this information with a minimum of work.

A voucher in its simplest form is any okayed or approved invoice or bill for goods purchased, or memorandum of services purchased. You do not require a special printed form. If you buy ten tubes from the O.K. Tube Company and they render an invoice, all you have to do is mark it "goods received and okay," date it, number it. and for your purpose it is a perfectly good voucher. When you take the slips from your petty cash box, put them in an envelope or fasten them together: put a slip with them showing their total amount, the date, number of the slip, and it becomes a voucher. When you draw cash from the bank for your personal expenses, write out a slip with your name on it, the amount, the date, and number it - and this memo serves as your voucher.

▶ Now we have Rule No. 3. Never make a payment of any kind unless you have a bill, or a complete memorandum showing the date, the amount, the purpose of the payment, and a voucher number. Vouchers should be numbered consecutively. (You can start with number 1.)

A simple method is necessary for recording, paying, and filing vouchers. Use the first part of the journal-ruled blank book already mentioned. (See Form 2.)

Head up the first page of your blank book with the words "Voucher Register." Then mark the columns as shown in the figure, Date, Pay to, For, Voucher No., Amount, and Date Paid.

Let us suppose that your first transaction is to set up a petty cash fund. You make up a memorandum for "Petty Cash," write the amount, the date, and number it in the upper right-hand corner "Vou. No. 1." You might next receive a bill for tubes sold on thirty-day terms, which means that it is to be paid in thirty days. If you think that you will have enough money to take the discount

offered for prompt payment, deduct the discount. If, on the due date you find that you cannot make payment, it will be necessary for you to make another entry in the Voucher Register (using the original voucher number) for the amount of the discount originally deducted from the bill. Check this bill carefully against the tubes received, okay it, mark the date, and number it "Vou. No. 2" in the upper right-hand corner.

Now enter both of these vouchers in the voucher register that you have prepared; enter the amount due or to be paid in the first money column and leave the second money column (Date Paid) blank for the present.

All vouchers must be carefully filed. Have one file for unpaid vouchers and one for paid vouchers. Elaborate facilities are not necessaryprobably a stout cardboard box will do. A heavy envelope or file pocket may be satisfactory for each file. Place unpaid vouchers in your unpaid voucher file in alphabetical order, and paid vouchers in your paid voucher file in numerical order.

Turning again to your voucher register, you can see how easy it is to tell once a month what the total expenses of your business have been, what you have withdrawn for your personal use, and the grand total of all expenses.

PAYMENTS

As you know, Rule No. 1 is to deposit all money in the bank. This means that it is necessary to pay all bills by check. (The only exceptions are small bills paid out of petty cash fund, but, as this fund is always renewed by check, we accomplish the same result.)

▶ The success of the voucher system and the control of expenditure of business funds lies in strictly following Rule No. 4. Always pay by check.

All bills that are to be paid have been made vouchers with numbers on them and filed in the unpaid voucher file. When the time comes to pay the voucher, remove it from the unpaid voucher file and use the following safe procedure in making up your check. (See Form 3.)

Before filling out the check, fill out the check stub. Show, in the usual spaces provided, the date of the check. the number of the check, the name of the person or firm to which the check is payable, and the number of the voucher that is being paid.

Now fill in the check completely. being careful of the check number, the date, and especially of the amount to be paid. In the lower left-hand corner of the check put the number of the voucher being paid. If the payment is for more than one voucher, show all voucher numbers. This makes it easy in case of dispute to get out the paid vouchers covered by the check.

Now get out your voucher register and make sure that every voucher being paid is properly entered and that the amount of the check agrees with the total of the vouchers being paid. not only as shown on the vouchers but also as entered in the register.

of the voucher register, opposite the items paid, the date of payment, and the check number. Mark your voucher paid, showing the date of payment and the check number. Then file the voucher in the paid voucher file in proper numerical order.

At the end of the month, your voucher register will very likely show some items with no payment notations beside them. These should be items which are not vet due. Check these open items on your voucher register against your unpaid vouchers, and add them up; you should have the exact total of the amount that you owe.

In a sizeable business, a payment register becomes necessary. To save you work, the system outlined in this book eliminates a payment register and uses the check stubs only. You will simply show on each check stub the amount of each check as drawn and the total amount of the checks already drawn to date during the month. Add the amount of each check to the sum of the checks brought forward. You will thus have at all times the total of the checks drawn during the month and will automatically have this figure ready at the end of the month when you do your checking.

Under this system, the only amounts to be entered on the face of the check stub are the amount brought forward (which is the total of checks drawn already during that month to date). the amount of the check being drawn, and the total to date.

Keep the record of your bank bal-Then, note in the last money column ance on the back of the previous stub

	aid	100	CK 2				
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Joucher Gegister	water Chay to Jon -	Jam 1 John Student atty Cash	2 2 Od. Suber Go Juber	6 Gadio Supply Co. Carts			

FORM 2



(in Form 3 this will be the back of Stub No. 31), where you will show the additions for deposits made and deductions for checks drawn. Study Form 3 very carefully.

This departure from the usual method of recording changes in the bank balance on the face of the stub may be confusing, but the purpose is the determination of the total of the checks drawn for the month. This figure would normally be found in a Payment Register mentioned before in this text.

RECONCILING YOUR BANK ACCOUNT

At the end of the month, when your paid checks are returned by the bank, place them in numerical order, check them against the stubs, and mark the stubs to show which checks have been paid. List and add the unpaid checks, adding their total to your own balance shown on the back of the stub at the

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end of the month; then you should have the balance as shown by the bank for that date.

Here is a simple way to test the accuracy of your record-keeping and, at the same time, make an additional check on your bank account: Add the total of the deposits as shown in your cash receipts register for the month to the amount of cash in the bank as shown by your check book at the beginning of that month. Then subtract the total amount of the checks drawn during the month as shown by your check stubs. If your figures are correct, you will have the same balance as shown on your check book.

▶ This gives us Rule No. 5, a very important rule. Check or balance your accounts once a month. Make sure your work is accurate. If any mistakes have been made, find out where and correct them. Thus, your records will be dependable and will tell you the facts you need to know.

Job Costs and Billing

So far, our system has shown you how to account for all cash received and paid, how to handle all payments, and how to use a petty cash fund. Now, avoiding all accounting technicalities, we are going to supply a simple system of billing for your goods and services. This system will include a method of determining the cost and the profit on each service job. At the same time, you will furnish your customer with a bill and a complete statement of the work done.

For this purpose, a combination bill-and-job ticket has been designed. We recommend strongly, since the original copy of this bill remains with the customer or is mailed to him, that you have a good job of printing done, using good bond paper, and neat type set-up. A little care on your part and a few extra pennies will impress your customer with the fact that, if you are so careful and exact in your business methods, your service methods and service work are probably just as exact and careful.

The second copy of your form is somewhat different from the original copy. It should be printed on card stock or paper that is stiff enough so that you can stand it on end in a file box. When making up your bill, you will use a piece of carbon copy paper between the original and the second copy.

It is not necessary to have these forms bound together. A paper clamp or clip board will hold both copies and the carbon paper between them in proper position for writing.

In order to get a clear impression on your file copy of the invoice, you will need a good pencil. We suggest a "copy" or "indelible" pencil, or a No. 3 lead pencil. A stiff point fountain pen (manifold point) would be better, but is not essential. Keep two or three well-sharpened pencils in your kit and at your shop so that you need never fail to render a bill on every job.

Now examine carefully our invoice and job ticket and see how they are used. (See Form 4.) Your name, address, and telephone number should be attractively and plainly printed. Then we shall number the first job on which we use this form Job No. 1. Now fill in the date.

Notice particularly the little item, "Terms: Cash." If your customer is sound enough financially to have the job charged, cross off the word "cash" and write ten days or thirty days, or the date on which he agrees to pay. Some people entertain the false idea that, when no definite date of payment has been agreed upon, payment can be made at any convenient time, perhaps a year or two. They are wrong, but a few such customers can quickly stop your business from functioning. due to lack of funds. Never leave a bill or mail a bill to a customer without the terms of payment clearly stated.

Now let us assume that you are

receiving a call for service. Enter on the invoice the customer's name and address, the location of the job or

when you can do the job enables you to plan your work, and having this much of the invoice and job ticket

Form 4	
JOHN H. JONES	
AUTHORIZED RADIO-TRICIAN 42 CAPITAL STREET	
WASHINGTON, D. C. Phone 3x67	b No. 49
Phone 3x67 Jo	bb No.
Terms: Cash Date 7	nay 10, 1934
Name_James Prown	PARTS
1 alac m: 1 1 to 1	
Address v or a richard space	
Location of job_ 3426 Main Street	
Work to be done	
No reception	
Quantity: Material Used:	Price
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	1-1-
1.5 MED By pass bond.	60
1 fightning arrestor	.50
- fighting couldar	
TOTAL MATERIAL CHARGE	180
SPECIAL CHARGES	
LABOR CHARGE	210
TOTAL BILL	390
PAID May 10,34 THANK	(OU
1 al Amies	
DATE May 10, 34 THANK Y Work O. K.	
Signed James J. Brown Ourser or Tenant	\sim
Owner or Tenant	
FORM 4	

where the service call is to be made, and as much detail of the job as you can get, including the time when the job can be done. Knowing in advance

filled out in advance saves you time when you are on the job.

As you start working on a job, lift up the original and carbon paper and

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enter your starting time on the shop copy. As you use parts or material, enter them on the original copy, with the carbon in place, being sure to show the price as the selling price. If you have to buy special parts while on the job, list them on the original, but lift up the original and carbon paper and enter the cost price immediately of these special parts on the shop copy. Incidentally, this may remind you to collect the cost of these parts from your petty cash fund when you get back to the shop.

When you finish the job, be sure to enter on the shop copy the stopping time, figure the amount of time between starting and stopping time and enter this elapsed time in the proper place.

Then enter on the original, with the carbon in place, the amount you wish to charge for your labor. You already have the prices of material used entered at their selling prices. Now add the totals for material and labor, bringing the grand total down to the space, "Total bill."

If the customer pays you, mark the bill paid, date it, sign it, and give the original to him. If the job is to be charged, get the customer to accept the bill by signing at the bottom after the words "Work O.K. Signed." Be sure the carbon is in place so that on your copy you have a complete okayed copy of the original bill.

As soon as you return to your shop, fill in the cost column on your carbon copy. On the job illustrated, the cost price of the parts which sold for \$1.80 was \$1.07. For your own information you figure the difference and get the profit on materials as \$0.73 which you might note near the words, "Total material."

Now figure the cost of your labor just as though you had hired it done, pricing it at a definite hourly rate, which you feel you earn, or which you would have to pay an employee doing the same quality of work that you do and who has your technical qualifications. Where you are the only servicemen, then you should charge exactly what you would earn per hour if you were employed by some other organization.* (This does not include the profit on the labor.)

OVERHEAD

The next item to figure is overhead. An entire book could be written on this subject, but for practical purposes it is enough to understand that overhead is simply the total of all expenses incurred by your business during the month that cannot be charged directly to particular jobs. These indirect expenses must be spread over all the jobs you do. Such items are solder. wire, and all miscellaneous items of supply, including business stationery and gasoline for your car. These must be estimated as closely as you can reasonably do so in advance. Items such as rent, light and heat, and telephone can be estimated closely.

* When you start a business, you should draw no more than you earn by your labor charges. When the business becomes established you may fix a weekly wage for yourself. Certain important items such as o wear and tear on shop equipment and y on your car must be estimated. Sup-

of \$48 or \$2 a month. We will assume your car to be worth approximately \$240 and that you estimate it will be

Form 4 Phone 3x67 Terms: Cash RECORD OF SER Name	SH VICES F	IORIZE 442 CAF WASHII IOF READE MC	D RAL	MATERI MATERI	Y Date IAL AND	Ma D PART	оЦ (м10,1 Гр solic	934
Quantity: 1	Material U	Jsed:			Cost Price		Sellin Price	
1 Julhe		27				42		70
1.5MFD	. pa	u C	m	d		36		60
_ l Lightm	ng a	lre	sta			29 -		50
List additional material on bring forward total, and ent	a second s	sheet,		F				
LABOR		L MAT	ERIA	-	1	07	1	80
Serviceman on Job	Start	Stop	Hrs.	Rate				
JAJones.	4:00	5:00	1	1.00	1	00		
TOTAL LABOR COST	AND CI	HARGE	D		1	00	2	10
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PAID May 10, 54	Material Total Co	st of Jol mated P led				67	T BI	OTAL

pose that you are using a \$48 multimeter which you expect to last two years. The *monthly* cost of this instrument to you is one-twenty-fourth

one-half this value or \$120 at the end of twelve months. This loss in value or depreciation is \$120 for the year or \$10 a month. List all your indirect expenses for one month, and you may have a result something like the following:

Gasoline for the car	\$ 5.50
Wire, solder, etc	3.50
Telephone	3.50
Light and heat	9.00
Rent	25.00
Tools worn out or lost	1.50
Depreciation of test equipment	2.00
Depreciation of automobile	10.00
Total indirect expenses	\$60.00

How shall we distribute this overhead to the actual jobs you will handle? You know about how many hours you expect to devote to service charged the customer will be \$2.10, which we get by adding cost of labor \$1.00, profit on labor 50ϕ , and overhead 60ϕ . The addition of \$2.10 to the selling price of material makes the total billed \$3.90.

Now, to get the estimated profit, subtract \$2.67 from the total amount of the bill which is \$3.90 and enter the difference of \$1.23 after "Estimated profit." To check your work, add again the total cost of job and the estimated profit and your *total billed* should read \$3.90. Remember that all of this detail is entered on your carbon copy only and is confidential information for your use.



work in the coming month. Let us assume that this will be one hundred hours. Divide \$60 by 100 and you will find your overhead expense for each hour of labor is 60 cents. Since our sample service job took just one hour, we add in 60 cents for overhead. To this you add the profit derived on labor—in this case 50 cents per hour. The total charge for labor should not be unreasonable, as the customer is bound to complain. The total labor Frequently, you will make an outright sale of receiver parts, accessories, electric appliances, or a radio receiver. There will be no service cost, labor charges, or overhead charges, on any such direct sales. Use your invoice form by making entries in the material spaces only, bringing the amount down to the *Total billed* space. On your carbon copy, enter the cost of the goods to you and figure your profit. You understand, of course, that this profit is known as gross profit and should be high enough to cover all costs of selling and handling, and still leave you an actual, or net, profit.

In the case of sale of a receiver, you will, in practically every case, be expected to make the installation. You really have to do this to make sure that you will have a satisfied customer. When making an installation, work without charge reduces the margin of profit on a receiver sale, and an accurate record of installation costs should be kept for your own guidance.

The full value of this combination invoice or bill-and-job ticket form will only be brought out as you use it. Retail prices of radio parts, accessories, etc., are fixed within certain limits. Selling service and labor is a very different matter. This is perhaps

N DATE JAN 18	1934
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YEAR MODEL NO. 3	4
a. C. BATTERIES USED	-
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T TO RIGHT-CONTROL KNOBS AND UPPER CHASSIS FACING YO) (UC
r aerial	
DATE INSTALLED Jan	1932
FOR SERVICES AND SALES	
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War 28	550
20 50	20 50
DEINTER	IN U.S.A.

you may or may not find it advisable to make an installation charge. If an installation charge is justified, use the entire form the way that has already been explained just as if you were making a service call. Where there is no additional charge, you can show on your carbon copy the starting and stopping time, the cost of the time and overhead, and subtract their total from the gross profit. Installation the simplest way to make sure you receive a reasonable profit on your servicing ability. If you can service a receiver twice as fast as the average technician and he charges \$1 an hour, there is no reason why you shouldn't charge \$2 per hour. Referring to the cost sheets on past jobs, you have a dependable method for estimating on future work, when you are requested to give a price.

JOB CARD REGISTER

This is a simple record we can keep in a convenient, unused portion of the blank book already purchased. Write in the heading, "Job Card Register," and head the individual columns, Date, Customer's Name, Job No., Cost, and Selling Price. (See Form 5.)

Enter each day's job tickets, writing down the date and customer's name. Then show whether the job is a cash job or a charge job. Fill in the job number, your cost, and the selling price in the proper columns.

It is particularly important to show whether the job is cash or charged, since there is no profit until you get the money. If the job is for cash, make the necessary entries in the "Cash Receipts" section of your record book. Should the job be on a credit basis, get out your "Set Record and Accounts Receivable Card" (See Form 6.) From your Job Card, make the necessary entries in the columns "Job No.," "Date," and in the "Amount Column," this latter being the amount charged the customer. When the customer makes a payment on account, the payment must be entered in the Cash Receipts Register, and the date of the payment and its amount entered on this card. If you wish your record of Customer's Sets to be complete, cash jobs could be entered on this card, writing the word "cash" in the payment column.

You should have a box or file in which to keep your "Set Record and Accounts Receivable Cards" on which there are unpaid balances; these cards should not be removed or put in the general file until the accounts have been paid in full.

Adding the balances due, as shown by the cards in the unpaid file, you will get the amount owed to you from your customers at any time. When an account is paid in full, you withdraw the card from the unpaid file and file it with other record cards in the general file.

Profit or Loss

Once a month, when figuring your accounts and checking your work, you will by all means want to determine the amount of your profit for the month. We will assume that your figures are correct and that you have been careful in figuring your overhead. In this particular case, we will assume that you have actually worked one hundred hours and that for every hour you have worked, you have actually charged the 60-cent overhead so that your total overhead of \$60 has been distributed over work done and accounted for.

Now add up the cost column and the selling price column in your job register, subtracting the first total from the second total. The result is your profit for the month.

Add to this figure the total labor allowance you have given yourself on your job tickets, and you will have the total of your earnings for the month. You must bear in mind that the difference between the cost column total and the selling price total represents the profit over and above your labor. If you have paid a helper, his cost to you is already included in your job cost figures so no adjustment is necessary and the method just described enables you to arrive at your profit immediately.

It is desirable to be able to check or prove the correctness of this profit figure. To do this, list all the values owned at the beginning of the month and right beside them list these values as they are at the end of the month. For illustration, assume that the cash on hand at the beginning of the month was \$110 and at the end of the month \$260. The actual cash value of parts on hand at the beginning of the month was \$60, at the end of the month \$70. List these as shown in Form 7.

After these two columns, head up two more columns, the first one being marked "Decrease" and the second. "Increase." Subtract your value at the beginning of the month from your value at the end of the month and enter the difference under the word "Increase." (If the value at the end of the month is lower than at the beginning of the month, subtract the other way and enter the result under the heading "Decrease.") When you are through, the difference between the total decrease and the total increase will show whether your net value for the month has increased or decreased, and to what extent.

Now put down the total of all unpaid vouchers at the beginning of the month and the total at the end of the month. If what you owe has increased, deduct the amount of this increase from the amount of the increase in values owned to ascertain your profit. If what you owe has decreased, add the amount of this decrease to the amount of your increase in values owned, to arrive at your profit. If your values OWNED have decreased and your values owed have increased, add to get your loss. From the increase in values owned, which is \$145 in the illustration, subtract the increase in values owed, which is \$10, and the profit is found to be \$135. Let us assume you have \$100 of your own money into the business. In this case your profit would be \$100 less, and your final profit for the month is \$185.

We	would	recommend	that	you	set	t
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	FODM	-		
	FORM	•		
	Beginning	End	D	T
Owned	Month	Month	Decrease	Increase
Cash	\$110.00	\$260.00		\$150.00
Parts on hand	60.00	70.00	A10.00	10.00
indee (Depresenter inter)	220.00	$210.00 \\ 55.00$	\$10.00 5.00	
Analyzers, testers, etc.	60.00	55.00	5.00	
	\$450.00	\$595.00	\$15.00	\$160.00
				•
				1
Les	ss decrease i	n value		15.00
No	t increase ir	volues or	nod	\$145.00
Ne	t increase in	i values ow	neu	\$145.00
Owed				
Accounts Payable	\$70.00	\$80.00		\$10.00
Increase in values own	had	\$145.00		
Increase in values owed		10.00		
increase in values offer				
Profit for month				
Add withdrawals		150.00		
		0005.00		
Earned	• • • • • • • • • •	\$285.00		
Earned		\$285.00		
Contribution (incl. in	n cash on	100.00		
hand)		100.00		
A stual coming		\$185.00		
Actual earning		\$100.00		

FORM 7

withdrawn for your personal expenses, \$150. Add this to your profit of \$135 and you find your total earnings for the month have been \$285. Let us assume, however, that during the month you have put an additional up theoretical combinations of figures and, with a pencil and paper, figure out these combinations until you thoroughly understand this procedure.

Now this profit should be the same in amount as the profit shown on your

job register, added to your personal labor allowance and less your personal withdrawals. If it is not, get out your job tickets for the month, take a sheet of paper, and draw columns. Then, list the cost and selling prices of material, the amounts you have allowed for overhead, the amounts you have allowed for labor, the estimated profits, and the charges for labor. Add your lists, study them, and check carefully. You should find it easy to determine where profits were made and where losses occurred. You should be able to tell readily whether or not you are charging too little or too much for your services. Careful and intelligent use of this system will keep you informed as to where you

are heading financially and help you to build a sound, well-managed business.

Bear in mind that this system has been simplified for your convenience and to save you time. It is possibly not the most exact system, and we have omitted records that you would find in a system of "bookkeeping," but it is probably the most practical that could be devised. Just a few minutes each day and a few hours once a month, plus a little study and thought, will enable you to advance from being just a serviceman to being a businessman. As your success increases, you will want to go deeper into the accounting side of your business.

Large Store Accounting

The simple system of record-keeping and accounting described for a small service and merchandising business should give you a good check on your costs and earnings while your business is small, consisting perhaps of a clerk, a serviceman, and yourself. As you diligently apply yourself to building up your business, the time will come when you will have a larger store, employ several servicemen, operate one or more sound trucks, install light-control devices. If you branch out into the sale of refrigerators, electrical appliances, phonograph combinations, you will

also hire salesmen and special servicemen.

A successful business can be established only by close study of business records. If you borrow money from the bank, you will have to render standard business reports. In order to prove that the taxes you pay are correct, you will need adequate accounting records. If you want to know whether certain lines are more profitable than others, only records and not opinions can give you the proper information.

The installation of a complete bookkeeping system to give the above facts is a job for a public accountant. Have one install a system for you. Keeping the books is a job for a bookkeeper. Be sure you hire one that is capable. The time to do this is when you *start* to grow and feel that you can afford a bookkeeper. If you get the information you want and use it intelligently, the bookkeeper's salary will be earned many times over.

Because installing and keeping an accounting system is a job for a specialist, it would be impossible to tell you all about it in a few pages. But every radioman who plans to become a radio merchant should know something about his bookkeeping system, what it contains, what it can do for him, and, in general, how it works. What are the essential features of an accounting system for a large store?

ESSENTIALS

The purposes of all accounting and bookkeeping are to arrive at two main objectives. These objectives are represented in two statements known as the "Balance Sheet" and the "Profit and Loss Statement"-the first representing the static position of the business, and the second the "action" of the business. In other words, the Balance Sheet shows you exactly what the business is worth at a stated time, while the Profit and Loss Statement sets out the causes of changes in the worth of the business during a particular period. A Balance Sheet at the beginning of the year may show your worth to be \$2,500, while a Balance Sheet at the end of the year

shows your worth to be \$3,600. As demonstrated previously, you have an increase of \$1,100, but from the balance sheets you do not know why, and if you know why you would be better able to increase this earning to \$1,500. This cause of increase is shown in the Profit and Loss Statement, and, for purposes of management, it is the most important of all statements.

The preparation of these statements can be most conveniently made if your books are kept on the double entry method. This means that theoretically there are two entries for every transaction. We say theoretically, because in no modern bookkeeping will vou find two actual entries. For example, suppose you make three hundred sales in a month on credit; you would not make six hundred entries. You would make three hundred entries on one side of the ledger and perhaps only one on the other side. Now what do we mean by sides of a ledger?

THE LEDGER

You must know what a ledger is. In double entry bookkeeping, the ledger is the book of final entry. All the facts of your business finally find their way into this book in condensed form. A page is headed up with a title that tells you just what kind of information is shown on that particular page. Look at Form 8, an illustration of a sample ledger page (there are other rulings, but this one is the oldest and serves our purposes better), and you will get an idea of



what a ledger is and its purposes. Also, consult definitions at the end of the book for a better understanding of the ledger.

In order to develop the idea of the ledger, let us assume now that you have one enormous sheet on which you make all entries. This sheet is divided in half: the left half (or side) is called the *Debit* side, and the right side is called the *Credit* side. Every transaction that occurs in your business will affect an account listed in Forms 9 and 10. Since the two sides must be kept in balance, put every transaction in one of the classes shown on the debit or credit side of our illustration; then the balancing entry will be classified under one of the headings on the other side.

Now refer to lower section of Form 8 and you should understand the effect of every entry made to the debit and credit sides of this large sheet.

Suppose we sold a radio set that cost \$20.00 for \$30.00 cash. We would increase the asset $(1)^*$ cash \$30.00 by making a debit entry. We could decrease the asset (2) stock in trade, radios, by \$20.00 and could show a profit (8) of \$10.00 by making two credit entries on the credit side. However, in practice we do not make the two credit entries at this time because the two entries would not give the exact information desired for making up your profit and loss statement. Instead, we credit sales (16) with \$30.00. Remember every sale should have three elements, the element of

*Refers to items on lower part of Form 8.

cost and the element of profit, on the credit side; and the asset element (cash, accounts receivable, or notes receivable) on the debit side. The same theory and practice applies when you pay your rent. You debit an expense account (5); and you credit an asset account (2). It is not so hard to understand, if you analyze each entry to determine its effect. As you record a debit or a credit on this large sheet, you would key this entry with the key number shown in Forms 9 or 10 which identifies the type and account.

JOURNAL

We will leave the ledger for the moment and introduce you to the journal. In modern accounting, the journal is of relatively little use. Due to labor-saving methods it is used only for extraordinary entries. for adjustments and corrections. We introduce it at this point because it ties in with the development of the ledger. Remember, we suggested that all entries might be made on one ledger sheet. Now let us move the debit column on the ledger sheet over beside the credit column, and you have the same old ruling as shown in Forms 1 and 2. We have a journal instead of a ledger. The two transactions would appear as follows:

	Dr.	Cr.
Cash	30.00	
Sales		30.00
(Sale of one	radio set, co	st 20.00)
Rental Expense	25.00	
Cash		25.00
(Rent on store pa	aid for Janua	ry)

Now a journal kept in this manner would be of no benefit to us in determining our financial position quickly, so we make up an individual ledger sheet for every kind of asset, liability, or expense necessary to make up our Balance Sheet and Profit and Loss Statement.

In theory, we make every entry in the journal as shown, then we transfer (post) the individual items to the proper sheet in the ledger by making entries on the ledger sheet on the debit or credit sides exactly as they appear in the journal.

CLASSIFICATION OF ACCOUNTS

To get the best results from your accounting, you must determine exactly the information desired, and then you must accumulate the information in an orderly manner. To accomplish this end, you must make a survey of the business and determine what is necessary. The accounts in the ledger should be arranged as nearly as possible in Balance Sheet and Profit-and-Loss order to facilitate the taking off of these statements. To help you in this we give you a chart of accounts. Form 9. prepared by the Charles R. Hadley Company and printed with their permission. You should note that each item having a number represents a ledger sheet, and note particularly the arrangement of the accounts. This is a very excellent and complete chart of ledger accounts.

Form 10 is a condensed form of a Chart of Ledger Accounts, which we

can recommend for a small or medium business.

CASH BOOK

In your ledger, you have an account with cash. You will find that you are making numerous entries to this account, and probably the work involved in doing this posting will become burdensome. There is a simple way to get around this. Use a special book for making cash entries; both incoming and outgoing cash. We still follow the rules that all cash be deposited and that you pay only by check. Use a journalruled book like that shown in Form 1. Open the book and head up the left-hand page, "Cash Receipts," and the page directly opposite, "Payments." You now see what we have done-we have lifted the cash page out of the ledger. All cash received is entered in detail on the left page, together with the deposits. (Of course, the amount received and the deposits should balance.) Also, all checks issued are entered in detail on the right page. Find the difference between the totals of the two sides each month. This difference, added to the balance at the beginning of the month if there is a debit balance, or subtracted from the balance at the beginning of the month if there is a credit balance, will give you the balance in the bank. You may post the totals of the pages at the end of the month to a cash account in the ledger, but this is not necessary. For detailed handling of this work, you should consult your

EXPENSE Stratesting Additactive and Control Reports Symbol Additaction and District and Control Reports Symbol Additaction and District and Control Reports Symbol Addition and District and District and Control Reports Symbol Addition and District and Control Reports Symbol District and Control Reports Symbol District and Control Reports Symbol District and Resolution Symbol District and Resolution Symbol District and Resolution District and Resolution District and Resolution District and Resolutin District and Resolutin	MISCELLANEOUS CAINS AND LOSSES COME DEDUCTIONS FROM INCOME Discrete End Discrete End Discrete End Official Operations And Operations Discrete End Official Operations And Operations Carlo Social Carlo Social Carlo Social Discrete End Official Operations Carlo Social Carlo Carlo Social Carlo Social Carlo Carlo Social Carlo Carlo Social Carlo Carlo Carlo Social Carlo Carlo Carlo Social Carlo Carlo Carlo Carlo Social Carlo Carlo Carl	FOR CHART OF LED Recommended for a Sm BALANCE SF Assets: 1. Current Assets. 11 Cash in Bank 12 Petty Cash 13 Accounts Receivable 14 Inventories 141 New Radios 142 Used Radios 143 Tubes 144 Parts & Accessories 145 Misc. for Sale 15 Tools and Shop Supplies 2. Fixed Assets.	GER ACCOUNTS all or Medium Business
LIABILITIE CUERTY Natronals CUERTY Natronals 201 Ness Pryshic—Bank 201 Ness Pryshic 201 Ness Pryshic 201 Ness Pryshic 202 Ness Pryshic 203 Envoic Company on Re. 203 Envoic Company on Re. 203 Envoic Company on Re. 204 Network 205 Envoic Company on Re. 206 Network 207 Statistic Network 208 Network 209 Network 201 Network 201 Network 202 Network 203 Network 204 Network 205 Network 206 Network 207 Network 208 Network 209 Network 201 Network 201 Network 202 Network 203 Network 204 Network 205 Network 206 Network 207 Network 208 Network	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	 21 Furniture & Fixtures 211 Allowance for Depreciation F & F 22 Analyzers, Testers, etc. 221 Allowance for Depreciation 22 23 Automobiles 231 Allowance for Depreciation Autos 	 D LOSS ITEMS 6. Sales 61. New Radios 62. Used Radios 63. Tubes 64. Parts and Accessories 65. Misc. Sales Items
ASSETS CARAN BARN A DAM BARN Bary Carante Reservable Bary Carante Reservable Bary Caranter Reservable Constant Reservable Cons	CHART OF GENERAL LEDGER ACCOUNTS Pathfinder Bookkeeping System for Radio Dealers Form 9	 8. Operating Expense. (Control) Distribution Columns for 81. Salaries 82. Service Labor 83. Tool Expense 84. Shop Supplies 85. Rent 86. Taxes 87. Heat, Light, Telephone 88. Depreciation 89. Sales and Advertising 90. Office Supplies 91. Automobile Expense 92. Miscellaneous Expense 	 Sales of Service Service Labor Overhead Estimated Profit Miscellaneous Income & Losses Commissions Earned Commissions Paid Interest Received Interest Paid Discounts for Cash Bad Debts Misc. Income and Loss

FORM 10

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accountant. This much is given you to show the development of many other books used in accounting and that, in many cases, these books are simply ledger accounts removed from the ledger.

You must understand that the detail as to the keeping of records showing who owes you money and how much, and to whom you owe money and how much, would be used in the double entry method, exactly as explained in the section considering a simple accounting system. Double entry is simply an elaboration of the method; you would still have the Cash Receipts Register, the Voucher Register and file, the Accounts Receivable Cards and the Job Card Register which would be the same as the Sales Record.

From what has been said up to this point, we may now summarize the essential features of a double entry bookkeeping system. With the cash book, the voucher register, the job card register or their equivalent we have what are referred to in accounting as the books of original entry. This, of course, does not entirely eliminate the journal which is used (as we have said) merely for the recording of extraordinary entries, such as correcting errors in your accounting and closing the books at the end of an accounting period. From the totals of the columns in the books of original entry, postings are made to specific accounts in the general ledger at the end of the accounting period and these, in turn, serve to give information for the setting up of the Balance Sheet and the Profit and Loss Statement.

▶ In the first section of this text we have outlined a simple method of accounting for your guidance, believing that if you use this system you will have sufficient knowledge to guide you to success in your undertaking. The section under Large Store Accounting is necessarily sketchy and is written only for the purpose of giving you an over-all knowledge of what to expect in an accounting system. We have given you the bare essentials and the many other books and records that are used are for the purpose of giving more detailed information and they all tie in with some account in the General Ledger.

Definitions

Realizing the difficulties met by the beginner in business in the understanding of accounting terms, we have listed a few of them, each with a brief definition. An understanding of each meaning will aid you in the operation of your business and in discussions with your banker and your accountant.

Account. As we understand it, an account is a detailed statement found in the Ledger. It has a heading which shows the name of the asset, liability, income, or expense to which the items therein pertain. There is a column for charges and a column for credits, and a column for the difference or balance. There is a space for date, and space for such detail or explanation as you wish to enter. Accounts can be generally classified as: Asset Accounts, which record values owned; Liability Accounts, recording values owed; Capital Accounts, which represent investment in the business. plus or less, profits or losses. Income Accounts, for our purposes, show the amount and source of income, while the Expense Accounts show the detail of the costs of doing business, including the cost of goods sold.

Asset. An asset is something of value, owned. *Fixed assets* are those assets used for business purposes and have a determined value. They remain in the business, and are not bought and sold in the regular order of business. *Current assets*, are those that are coming in and going out. They are constantly increasing or decreasing due to regular operation of the business.

Audit. To audit means to verify the accuracy of the books of account. Also, to check a bill for its accuracy as to prices, goods, and calculations is to audit a bill.

Balance. A balance is the excess of the sum of the column on one side of an account over the sum of the column on the other side. If the debit or left-hand column has the larger total, the balance will be a debit balance; if the credit or right-hand column is the larger, it will be a credit balance.

Balance Sheet. A balance sheet is an orderly arrangement of assets, classified as to kinds, balanced against an orderly listing of liabilities plus capital. It shows the relation between different kinds of assets and between assets and liabilities. It shows proprietorship or net worth as represented by the difference in assets and liabilities.

Budget. A budget is a forecast of income, against which an estimated allotment of expenditure is made.

Capital. Your capital is your investment or equity in the business. It is the excess of assets over liabilities; or, if there are no liabilities, the total of the assets invested. As a matter of good business and good bookkeeping, do not contribute funds to the business or take funds out of the business without charging or crediting the Capital Account.

shipment of goods to a person, known as the consignee, to be held or sold for the benefit of the shipper, who is the consignor. Ownership and all rights in the goods remain in the consignor.

Depreciation. Depreciation is an estimated decline in the value of assets, due to the wear and tear of use and the ravages of time. It represents the difference between the cost and the scrap value of the asset, this value being divided by the time intervening between the date of purchase and the probable date of scrapping or other disposition. The time may be measured in months or years as suits the necessities of the accounting system. In our illustrated accounting, we take our old car into the business at a value of \$160.00 on January 1. On December 1 its trade-in value would be \$50.00. The depreciation will be \$110.00. We know we will use the car eleven months so the depreciation will be \$10.00 a month.

Discount. Discount is a deduction from a listed figure or cost, and it may be a Cash Discount, which is an allowance of usually one or two per cent of the bill for prompt payment, or it may be a Trade Discount, which is a percentage reduction from a fixed or quoted price on a radio set or on standard parts.

Entry. An entry, for our purpose, is the recording of a fact in any of the books in our bookkeeping illustration.

Expense. An expense, briefly, is Consignment. A consignment is a any expenditure of funds or other assets necessary to the carrying on of the business, excluding of course the substitution of assets for assets, as would occur in the purchase of goods for sale. Rent and labor are expenses. The exchange of cash or our credit for radios is not an expense, but an exchange of one kind of asset for another asset.

> Expenses in a servicing business are Direct Expenses, that is, those that can be charged directly to a particular job; labor is one example. Indirect Expenses are those that must be estimated or allocated to many jobs. See definition of Overhead.

Income. Income is that value which comes into the business in exchange for goods and services. Gross Operating Income includes total revenue, while Net Operating Income is Gross Operating Revenue less costs of operations. Non-Operating Income is that derived from sources other than operation. Interest on savings deposits would be non-operating revenue.

Insolvency. Insolvency is inability to pay debts, due frequently to inability to convert assets readily into cash. Bankruptcy is an excess of liabilities over assets, which makes it impossible for the person to meet his obligations under any circumstances. Inventory. An inventory is an itemized list of goods or other assets which shows a number of items, cost

or selling price per item, and total value. You may inventory the accounts of your customers or you may inventory your liabilities, or furniture and fixtures.

Liability. A liability is a debt. It may be *current*, such as amounts that are due for rent, merchandise purchased: or it may be accrued, such as salaries to employees earned but not paid or due. There can be fixed liabilities, such as mortgages.

Obsolescence. Obsolescence is that loss in value not due to wear and use, but due to new inventions of tools or machinery which makes the use of the old unprofitable.

Overhead. Overhead is that cost of production or of doing business that cannot be definitely applied to a particular activity, and must be distributed to various jobs on a more or less arbitrary basis. For instance, in servicing, your tools suffer obsolescence and depreciation; you use solder; and your car uses gas; and the tires wear out. You must pay rent. You advertise. All these items amount to quite a sum of money in a month, but are too indeterminate to be charged directly to each job. To take care of the situation, we arbitrarily add to the cost sheet on each job an amount estimated to cover (totaling amounts added to all job sheets) the total of these expenses for a given period. There are many ways of charging overhead, but the most satisfactory way for you in the service business is to charge it to each job as a fixed percentage of the actual labor cost.* The total overhead charged on jobs for a period may be checked against the actual expenditure for miscellaneous indirect items for the period and the percentage or rate adjusted up or down, to more equitably distribute the costs on future work.

Petty Cash. Petty Cash is a small sum set aside for the payment of small expense items where it is inexpedient to draw a check. In the books of account, the petty cash fund is a fixed amount as long as it is in existence. Checks are drawn at necessary times to replenish the fund, which brings it back to the original amount. The slips or vouchers representing payments are classified and the check is charged to the various accounts affected.

Posting. Posting is the transfer of items from books of original entry to the Ledger.

Profit. Profit is the increase in net worth or capital from the beginning of a period to the end of a period. Gross profit is the excess of selling price over the cost of goods sold. Net Profit is the Gross Profit less all costs of selling and all other costs of doing business.

Trial Balance. A trial balance is a list of balances of all ledger accounts. The balances listed in columns of debits and credits should total the same.

^{*} In the merchandising of radio and electric appliances, the selling price is set for you. In this case, it becomes the problem of the merchant to keep his overhead and direct expenses below a value that will assure him a reasonable profit, or give up the unprofitable line.

Turnover. Now we come to turnover. This is one of the vital factors in the operation of your business. Turnover in its simplest meaning is the number of times that you can use a capital asset in a given period or the number of times that assets renew themselves in a given period. For instance, on the first of January you buy for sale a receiver for \$100.00; you sell it for \$167.00, and you do the same every month of the year. At the end of the year your cost of receivers sold would be \$1,200.00. Your investment is \$100.00, your rate of turnover is 12, and your gross profit is \$804.00. Had you bought and sold only two radios a year, your rate of turnover would have been 2, your investment still \$100.00, and your gross profit \$134.00. It is obvious that the higher the turnover figure the greater will be your gross profit.

Where the selling price is not set by the producer of the product you sell and your turnover is high, you may figure a small profit on each sale and make just as much gross profit as you would if you had a small turnover figure and had added, to your cost of goods sold, a high profit.

Substitute the amount that you have invested for the hundred dollars and divide this into your cost of sales for a year to get your capital turnover.

What is your turnover in accounts receivable, or how well are your customers paying? Are they taking too much time, or are you extending too much credit? Suppose your sales average \$30.00 a day. When you balance your books, you find you have accumulated outstanding accounts of \$1,350.00. This shows your accounts receivable to be an average of 45 days' sales. In other words, you are granting 45-day terms of credit, while you think your selling terms are 30 days. You will have to speed up collections to pay your own bills in thirty days.

Voucher. A voucher is any bill, invoice, memorandum or evidence of expenditure of funds or evidence of liability to pay out money. There should be present such proofs of correctness or evidence of payment as to make it of itself sufficient proof to be acceptable by anyone as a proper expenditure.

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CUSTOMER COMPLAINTS

Every businessman expects a certain number of complaints in spite of his best efforts to please his customers. Some complaints are justified; it is human to make mistakes. Others are the result of misunderstandings, while a few are not justified at all.

You cannot avoid having some "call-backs," but your handling of these calls will have much to do with your customer good-will and your reputation.

Be just as pleasant and courteous in handling complaints as possible. The customer is doing you a favor by complaining to *you* rather than telling his friends that you cannot fix his set!

Even when the complaint is unjustified, it is frequently better to repair the set at no charge than to try to convince the customer that the new trouble is not related to your original repair.

Follow the practice of most businesses—charge these jobs to your overhead expense. Thus, by adding a small amount to the cost of each job, you can afford to handle these call-backs—you'll be keeping your customer good-will at no loss!

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J.E. Smith