

PHILCO

Published every Month by PHILCO, a progressive group of Radio Manufacturers in

VOL. II

OCTOBER 1931

Ain't it a grand and glorious feelin'—to be a PHILCO DEALER?

WITH many basic industries running half-speed or less; with world-leading companies pulling up their belts; with numberless commodities at their all-time lows; with a specially beautiful licking predicted by business prophets for the radio industry—on this grim stage, Philco's remarkable record for 1931 stands out in the spotlight like a modern business miracle!

Magazines publish articles about us!

Chambers of Commerce and trade bodies discuss us!

Business doctors analyze us for the secret of success!

Eminent national leaders comment on our performance!

Yes, it's a grand and glorious feeling to be a Philco dealer—and part of an organization forging straight through the depression, with more than double the sales of any previous year—out-selling all other radios combined—*increasing* instead of *diminishing* your profit opportunities.

But smug satisfaction is not part of that feeling. That isn't the spirit that started the job—it isn't the spirit to finish it right. In other words, we're not kidding ourselves.

Now at the top of the active selling season, every Philco man knows, more keenly than ever, that we can't overlook any bets these days if we want to make satisfactory profits for all.

Every man knows that beating last year doesn't count. He knows the job is bigger than "beating competition." He knows the real job means *full development of every profit opportunity*. We have the merchandise. Even competition admits that. From top to bottom of the line, in every price class, Philco gives biggest *value* by sensational margins.

We have the advertising—national and local—it dominates the industry.

We have the prestige and power of the greatest musical programs ever put on the air—Leopold Stokowski and the Philadelphia Orchestra in seven full-length broadcasts, on the mightiest network ever assembled for a musical broadcast.

Let's bear down and make the pay-off something to be remembered! Do these five things, and you'll do the job right:

1. *Sell up*—get the extra profits of higher bracket sets.

2. *Sell Philco-Transitone*—you have a virgin market of millions, with a monopoly on *genuine performance*.

3. *Sell tubes*—they swell your profits more than you may think!

4. *Sell batteries*—you have the best that are made.

5. *Sell the new Philco Radio Clock*—the greatest profit accessory that the industry ever saw!

Well done, that program means the greatest year for distributors, dealers and salesmen in all radio history.



The Philco Combination Radio-Phonograph as shown in Delineator Interiors

Year Event All Broad-

Doubling the Number— Doubling the Length—

of Famous

Stokowski - Philadelphia Orchestra Symphony Concert Broadcasts

Over Entire Network of Columbia Broadcasting
System—the Most Stupendous Hook-up Ever
Devoted to a Musical Program

with

Every Radio in America Tuned In!



Leopold Stokowski

BY popular acclaim, the Philco Leopold Stokowski-Philadelphia Orchestra broadcasts have become the greatest musical broadcasts of America, ones that everyone "attends." They have taken their place as the super-classic of the air as definitely as the Philadelphia Orchestra is acknowledged the world's foremost musical organization.

What the Metropolitan is to opera, the Kentucky Derby to thoroughbreds, Notre Dame to football, these spectacular concerts are to the fans of the radio world.

The enormous success of the Stokowski programs, for two years past, both from an artistic and a merchandising standpoint, is responsible for Philco's decision to present them this year on a tremendously magnified scale.

Instead of four concerts—this year there will be SEVEN!

Instead of one-hour broadcasts—this year each program will present a full-length concert of one hour and three quarters!

Instead of a studio performance, each program will be broadcast direct from the stage of the historic Academy of Music at Philadelphia, from a regular performance of the concert season.

Each will be broadcast over the entire network of the Columbia Broadcasting System, the mightiest network ever assembled for a symphonic broadcast.

Each will be broadcast, by special methods created by Stokowski himself, to give the fullest possible concert values and grandeur for radio reception.

And you can bank on this—from an advertising and merchandising standpoint: Just as surely as Philco's enormous national newspaper and outdoor advertising gives Philco out-

standing dominance in visual advertising, these seven concerts from October 12th to April 2d will absolutely dominate the air.

Not only their impressive length, their number, their costliness, their spectacular splendor, but their overwhelming prestige, reflects the highest association of merit on the Philco organization, the Philco dealer and the Philco product.

It is one thing to present the public with programs of fleeting interest and vaudeville caliber. It is altogether another to present a series of epic grandeur, in the glamour of world masters and with the authority of the famous Philadelphia Orchestra. These concerts identify Philco with an event memorable in the lives of every music lover—and they identify it in its proper position as the leader of the radio industry. By its very magnificence and momentum this



The Philco-Stokowski Ad Which Appears in The Saturday Evening Post October 10



casting Hisio

series of concerts cannot but exert a tremendous effect in stimulating Philco sales.

But your individual profit will be in proportion to the energy and effort you apply in exploiting these spectacles to the utmost. Every Philco dealer should begin at once to plan his campaigns to take advantage of the Stokowski concerts.

Review at once the program with which you tied up last year and the year before to these broadcasts. You will find many of these operations perfectly usable for this year's campaign, with the advantage of having experience in their performance.

Here are some suggestions that you may be able to adapt to your own local situation—every one of them a proven, business-getting operation that should prove more productive now than ever before:

Contact all musical organizations and societies, including those of foreign language, and interest them in hearing these concerts, as an organization, *in their own auditoriums*.

Lend them one or more 11-Tube Philcos for the reception of the Stokowski programs—a wonderful opportunity to demonstrate the performance of this great set before large audiences of music lovers, under ideal conditions. Distribute Stokowski concert programs and Philco literature at these auditions, wherever possible, as it should be possible in nearly all cases.

Make similar arrangements with local music schools, high schools and academies, stressing the high educational and cultural value of the concerts.

Send out to your preferred list of prospects announcements of the opening concert, calling their attention to the vastly improved reception of radios being built today, and particularly of Philco, featuring the selectivity, power and Automatic Volume Control of the 9- and 11-tube sets.

Put the beautiful Philadelphia Orchestra display in your window. Put up the Stokowski window displays.

Throw open your doors for a reception during the

; distribute handb...
departments of your neigh

Use the telephone to make personal calls on the concertgoers, with a suggestion of how much tonal qualities will be available for these concerts as other programs, with a Philco Balanced Superheterodyne.

Instruct your salesmen to make these concerts a part of their sales talks. Outside salesmen will find it an excellent opening if they begin their calls with a comment on the series; tell something of the magnitude and importance of the concerts, and then suggest the wonderful advantages of receiving them with a Philco.

The Philco-Stokowski Radio Concerts will be heavily advertised. Every Philco national advertisement during the concerts will carry mention of them. *The Saturday Evening Post*, *Collier's* and leading musical publications will carry the announcements.

A wealth of merchandising material will be available for dealers in conjunction with the series.

Tremendous publicity in the news columns of the daily papers has already started. Special newspaper articles will tie up your local store as a sponsor of the concerts.

Special newspaper advertising will be available and every possible means will be utilized to help you cash in on this series.

Your local advertising agencies will co-operate closely in newspaper advertising and publicity covering this series, as well as in suggestions for mailings, store receptions, window

trims, etc., for developing the maximum dealer tie-up to the national appreciation and advertising the series will give Philco.

This series of concerts represents the greatest concentration of salesmanship for Philco prestige and quality that was ever put on the air in radio history. Because of its tremendous size and scope do not expect it to do all the work.

You will profit precisely by the amount of energy and initiative with which you exploit the opportunity it creates.

Put Stokowski to work for you, and watch the biggest sales in all radio history reward your efforts.



The magnificent American Academy of Music, Philadelphia, where music lovers hear Stokowski and his famous Philadelphia Orchestra—and where Stokowski will broadcast his Philco Concerts

s Here! Philco Radios

national
Stocks A

al Advertising is Reaching Millions of Them

Example for the Selling-Up Season

Business news of the year for the entire Philco organization is the opening up wide of the hot selling season on the new 9-Tube Philcos featuring Automatic Volume Control, and the 11-Tube Superheterodyne-Plus.

Big sales in these sets spell SUPER-PROFITS-PLUS—and everyone knows it. Extra profits for distributors—extra profits for dealers—and extra commissions and bonuses for retail salesmen.

From the 5-Tube Baby Grand, T. R. F., right up the line, we were never so equipped to do a real *selling-up* job.

Tube for tube, and circuit for circuit—in every price class, Philco gives more power and selectivity—more performance and beauty—truer tone—greater value—and at prices that are startling.

With a \$36.50 base price, you have an immensely wider market from which to sell up. And every step of your up-selling way you offer added value and satisfaction to more than give customers their money's worth.

Already the outstanding "Best Seller" in its field, the tremendous advantage which Automatic Volume Control now gives the 9-Tube Philcos needs no telling.

And here—back of the 9- and 11-tube sets—is a concentration of advertising, national and local, such as was never before in radio history placed in support of such quality and prices!

Big releases of 4-color advertisements and double-page spreads, predominantly featuring Automatic Volume Control, are now appearing in national magazines with millions and millions of circulation.

In addition to the national advertising, a powerful campaign of newspaper advertising is right behind your local efforts on these higher profit sets.

And capping it all you have the tremendous prestige and publicity of the Stokowski-Philadelphia Orchestra broadcasts now working for you.

Here is a whirlwind barrage of advertising weight and power—the greatest ever released—overwhelming competition beating down resistance and creating thousands and thousands of new prospects for you to sell up.

We urge you now to get ready—check your stocks of 9- and 11-Tube Philcos—and be sure you have enough to meet your demand. Retail salesmen, too, are vitally interested in seeing that there are enough of these sets in stock, so they won't lose sales for lack of sets to deliver.

Your customers are ready for the higher-priced, high-profit

merchandise. Everyone is back from vacation. The season of big radio programs—football, prize fights, great musical programs—is at hand.

Dealers, right now, should be tuning themselves and their sales organizations to make the most of these PROFIT-OFFERING days by intensively selling up to the high-profit sets.

You'll find big-set profits are just as easy to get and enormously greater in the total if you go after every prospect, from the Baby Grand up, with an idea of selling greater radio satisfaction in a larger Philco set.

To Help You Sell Philco Automatic Volume Control

"Selling up" means selling your customer on the increased advantages offered in the more expensive radio models.

One of the most important of these points of advantage is Philco automatic volume control. Most of us know what it will do, but few know what it is and how it operates in the radio circuit. A better working knowledge of this important advance in modern radio will be of the greatest help to you in your "selling up" campaign.

Philco automatic volume control can be likened in its action to a governor—the automatic speed control—of a steam engine. If the steam supply increases slightly, the governor closes the valve a small amount, causing the engine speed to return to normal. Again when the steam pressure lowers, the governor increases the valve opening, allowing more steam to flow in and thus maintain constant speed. These regulation changes occur so fast, the effect is that of steady, uninterrupted speed.

Thus it is with the Philco automatic volume control. When the broadcast signal increases in strength, as would be the case when tuning from a weak station to a strong local, the automatic volume control acts immediately to decrease the amplifying power of the receiver so as to compensate for this increased signal strength. When the signal fades, the automatic volume control increases the sensitivity of the set so as to bring in the signal with its original volume. Automatic volume control overcomes two of radio's biggest disadvantages—fading and the loud blasting-in of local stations.

Automatic volume control is the speed control of a radio receiver, but unlike the steam engine governor, it is not an additional part which might be added—it is an inherent part of the radio circuit in which it is used.

The automatic volume control functions as a control of the amplification power of the radio frequency amplifier tubes. The grids of these we can picture as control valves for the tubes. A small amount of power applied in the control of the valve (grid voltage) results in the control of a relatively large amount of power in the output of the tube (plate current).

The detector rectifier tube receives a greatly strengthened radio signal after it has been built up and amplified in the R. F. and I. F. amplifier tubes. The output of this detector rectifier is connected to a resistor which furnishes C bias (grid voltage) for the R. F. and I. F. tubes. As the output of the detector rectifier increases, the grid or control voltage (negative grid bias) increases, causing the amplification power of the R. F. and I. F. tubes to be reduced, thus giving a balance, so far as output volume is concerned, which is equal at all times. The same condition applies when the signal fades, the grid or control voltage decreases, causing the set to become a more powerful amplifier.

The setting of the manually operated volume control determines the volume level in the speaker, while the automatic volume control serves to maintain this volume constant through changes in signal strength caused by fading or by tuning from a weak station to a powerful local.

Philco Magazine Schedule for October

<i>The Saturday Evening Post</i> . . .	two pages . . .	October 3d
<i>Collier's</i>	one page . . .	October 10th
<i>The Saturday Evening Post</i> . . .	one page . . .	October 10th
<i>Collier's</i>	two pages, 2 colors	October 17th
<i>The Saturday Evening Post</i> . . .	one page . . .	October 17th
<i>Collier's</i>	back cover, 4 colors	October 24th
<i>The Saturday Evening Post</i> . . .	one page . . .	October 24th
<i>The Saturday Evening Post</i> . . .	one page . . .	October 31st
		—Transitone
<i>Time</i>	one page . . .	October 5th
<i>Time</i>	one page . . .	October 19th
<i>College Humor</i>		November issue, out in October

Be sure to read every word of the two-page advertisement reproduced on pages 6 and 7. This ad will appear in *Collier's* October 17 and in *The Saturday Evening Post* October 3.

The Baby Grand Family Business

Three Wonderful Values—
to Cover Every Need of T
Marvelous Prices—
Million-Student Field

A LOT of new customers moved into your territory when a million men and women students packed off to college this fall. This market is a ready-made proposition for Baby Grands—three of them this year, at \$36.50, \$49.95 and \$69.50. The success which dealers had last year in placing thousands of extra sales with the college crowd is the best reason in the world for getting busy right now and lining up your plans to do a maximum selling job to your college trade.

Philco, in conjunction with the national magazine, *College Humor*, is ready to supply you with information about the students, men and women, with the names of those who are popular, active and can give your Philco line business-like representation.

Moreover, Philco in its *College Humor* advertisements advises go-getter students to get busy and see their local Philco dealers to sell the Philco line in their respective schools.

Some of these salesmen you'll want to keep on during their holidays and summer vacations. But the important thing is that with proper school coverage you can account for a brisk college business that will run up your profits. The Christmas season right ahead should be a tremendous business producer if you get organized at once.

Supply your student-salesmen with cards like that below to let the home folks know that Joe College wants a Philco.

And send right now for your quota of College Names and Parents' Names to Mr. L. R. Gage, care of *College Humor*, 1050 N. La Salle Street, Chicago.

Have your student salesmen cover all fraternities and sororities, and sell them a Baby Grand or a larger set. Where

fraternity houses already own a radio, sell the Baby Grand as an extra set, that can be conveniently moved about the house. Sell Baby Grands to students for their living quarters, library or "den." Cover all student car owners with a strong solicitation on Philco-Transitone. This is a wonderfully receptive market for Transitone, so don't let some other make be sold ahead of you.

Have your local advertising agency supply you with ads to run in your college paper, and run an announcement card in the college publications, announcing the appointment of your student salesman.

College Humor will co-operate with Philco dealers throughout this drive and will at all times give you the benefit of their wide merchandising experience covering American college and fraternity markets. The magazine will likewise supply you with valu-

AMAZINGLY LOW PRICES ON THREE NEW BABY GRANDS

Each the leader of its class . . . the best roommates on the campus



Model 136 \$36.50 Model 49 \$49.95 Model 69 \$69.50

PHILCO
WORLD'S LARGEST RADIO MANUFACTURERS



able display material. For any information from this magazine, please address Mr. Gage at *College Humor*, Chicago.

Here is a market that, properly sold, will absorb an astonishing amount of your Philco merchandise. Be sure you pick the right type of salesman—*College Humor* and Philco will help you in this—make your proposition attractive to him or her and go after your college market for a big successful season.

SURE, I want a Philco, and my Father's (Mother's) name is _____

and the address is:

Signature _____



More and More Progressive Bus Lines are "Going Transitone"

See the Philco page in the November issue of *College Humor*, now on newstands.

Do *l*ize that PHILCO

IMPORTANT
BE SURE TO ASK YOUR DEALER THE
NUMBER OF TUBES AND THE KIND OF
CIRCUIT BEFORE YOU BUY ANY RADIO



- | | |
|------|------|
| WSM | KFI |
| WEAF | WSM |
| WMAQ | WEAF |
| WPTF | WMAQ |
| | WPTF |
| | CKGW |
| | WLW |
| | WOR |
| | WGN |
| | CKAC |
| WSB | WSB |
| WJR | WJR |
| WJZ | WJZ |
| WBBM | WBBM |

Just as the picture at the left represents the *distorted* tone and blurred reception of unbalanced radio, the "station strip" shows the cross-talk and overlapping of stations, found in ordinary sets. Above, you see the *undistorted* plus distance and selectivity of every Philco radio, clear, vivid, —each station, separate and distinct, without overlapping or cross-talk.

• PHILCO •

WORLD'S LARGEST RADIO MANUFACTURER

THE MOST SPECTACULAR BROADCAST OF ALL TIME, OCTOBER 12th, 8:15 to 10 P. M. E. S. T.

Not from the chill of a studio background, but direct from the stage of the Academy of Music, swept with storms of applause from a glittering concert audience, Leopold Stokowski and his Philadelphia Orchestra, under Philco sponsorship, will present a series of seven two-hour broadcasts over the entire network of the Columbia

Broadcasting System. From the early masters down through the centuries to our sophisticated moderns they will give you the whole glamorous sweep of the music of the ages. And you will be a part of it — just as if you were present in person. Tune in with your family and friends.

0 AUTOMATIC VOLUME CONTROL

at least double the number of programs you can enjoy?

NOW PHILCO INCLUDES IT IN SETS PRICED AS LOW AS \$69.50 COMPLETE WITH NINE TUBES

WITH Philco Automatic Volume Control you can enjoy almost any radio program you want, regardless of whether it is on a nearby or distant station.

Not primarily for the *distance fan*, the real purpose of Automatic Volume Control is to multiply the number of programs which the *average* radio user can enjoy.

If you live in the city with numerous nearby locals, still the particular program or type of music you want may be on an out-of-town station. With Automatic Volume Control, you simply tune it in and enjoy it just as clearly, with the same constant volume as a nearby program.

If you live in the country with no nearby broadcasting, your choice of enjoyable radio programs may be multiplied five to ten times by Automatic Volume Control. When you reach out, as you must, for the programs you want, Philco Automatic Volume Control holds their volume constant, in practically unfading performance.

If you like to try for distance, then Automatic Volume Control is a necessity, if only for the

purpose of preventing fading at the time the call letters are announced.

When, as in the past, Automatic Volume Control cost around \$200 there may have been good reason for many to do without it.

But now that it costs so little can anyone really be satisfied without it?

No matter where you live—no matter what program you want to hear—Automatic Volume Control, in nine cases out of ten, counteracts fading so that you not only *get*, but *hold* and *enjoy* that particular program.

Automatic Volume Control also prevents the nerve shock of "blasting" from strong locals while tuning. And it is easier to operate—no constant jumping up to adjust the manual volume control. You will be amazed to find that you can tune in dozens of local and distant stations without even touching the manual volume control knob.

Remember, Philco's Automatic Volume Control is exclusive to Philco. There is no other like it. It gives full scope and brilliancy to the selectivity of Superheterodyne—to the power of Screen Grid—

to Philco Tone-Control—to the glorious tone and realism of Balanced-Unit construction.

Ask your dealer to demonstrate these Philco 9- and 11-Tube Balanced Superheterodynes, with Automatic Volume Control. Because Philco is the world's largest radio manufacturer, the prices are as low, or lower, than radios of fewer tubes, and without Automatic Volume Control. Automatic Volume Control is also included in Philco-Transitone which gives you performance in your motor car like Philco in the home. Price \$99.80, installed—\$10 extra if car has no aerial. Philco, Philadelphia, Pa. Philco Products, Ltd., Toronto, Canada.

Prices slightly higher in Canada, Denver and West

MODELS WITHOUT AUTOMATIC VOLUME CONTROL

FIVE-TUBE T.R.F. BABY GRAND	\$36.50
FIVE-TUBE T.R.F. LOWBOY	49.95
SEVEN-TUBE SUPERHETERODYNE BABY GRAND	49.95
SEVEN-TUBE SUPERHETERODYNE HIGHBOY	65.75
SEVEN-TUBE SUPERHETERODYNE RADIO PHONOGRAPH	110.00

All complete with Philco Balanced Tubes, including new Pentode Power Tube—genuine Electro-Dynamic Speaker and genuine Mahogany or Walnut Cabinets.



9-TUBE BABY GRAND, \$69.50

Complete with tubes. Indisputably greatest of all small radios, with real big-set performance—Automatic Volume Control—4-Point Tone-Control—New Electro-Dynamic Speaker—Illuminated Station Recording Dial—Long Distance Switch—New Pentode Power Tube. In American Black Walnut. Instrument Panel, matched Butt Walnut and Arch of "V"-matched Oriental wood. Hand-rubbed finish. Cabinet only 18 in. high.



9-TUBE LOWBOY, \$89.75

Complete with tubes. Gracefully executed in American Black Walnut and "V"-matched Oriental wood, hand-rubbed finish. Decorations in pin stripe American Walnut and quilted Maple. Automatic Volume Control—4-Point Tone-Control—Oversize Electro-Dynamic Speaker—Illuminated Station Recording Dial—New Pentode Power Tube—Long Distance Switch. Also in a HIGHBOY, at \$109.75, complete with 9 tubes.



11-TUBE LOWBOY, \$149.50

Complete with tubes. Designed by Norman Bel-Geddes, premier designer, and executed in American Black Walnut and matched Butt Walnut, hand-rubbed finish. Instrument panel in figured Black Walnut. Automatic Volume Control—4-Point Tone-Control—Oversize Electro-Dynamic Speaker—Illuminated Station Recording Dial, with Glowing Arrow Indicator—Two Power Tubes—Push-Pull—Long Distance Switch.



11-TUBE HIGHBOY, \$169.50

Complete with tubes. This cabinet is by Norman Bel-Geddes, in pin stripe American Walnut and matched Butt Walnut. Sliding doors. Hand-rubbed. Automatic Volume Control—4-Point Tone-Control—Oversize Electro-Dynamic Speaker—Illuminated Station Recording Dial—Two Power Tubes—Push-Pull—Long Distance Switch. Also All-*Electric* RADIO PHONOGRAPH with automatic record changer, at \$295, complete with 11 tubes.

© 1931, Philco

Philco Balanced Tubes Better the Performance of Any Radio

IT TAKES A BALANCED SUPERHETERODYNE TO FULLY MEET PRESENT-DAY CROWDED BROADCASTING CONDITIONS

The Story of Philco!

Where the Fastest in the World is Made

A PHILCO dealer recently remarked, after completing a trip through the mammoth Philco factories in Philadelphia, that his visit was the greatest Philco inspiration he had ever known. He had seen wonders which he had never before thought possible; his tour had sold him on Philco as nothing else could possibly do.

We wish that every Philco dealer could make such a visit, for we know that he, likewise, would experience the same enthusiasm.

The factory is large—so extensive that one can easily spend an entire day walking from one building to another, from one department to another, and still not see everything. There are over six thousand Philco employees producing the world's biggest selling radio.

Starting at the beginning of production our first halt is in the Philco Parts factory at Allegheny Avenue and C Street, and only this plant will be covered in this issue. In subsequent issues of PHILCO NEWS we will visit the Philco Cabinet factory, and finally the main Assembly plant.

The building at Allegheny Avenue and C Street is devoted to the manufacture of such component parts as chassis sub-bases, small metal parts, certain speaker parts and fixed condensers.

Giant punch presses, like those shown in Figure 2, turn out the chassis sub-bases, the variable condenser housings and the speaker frames. Starting at one end of the room with heavy flat sheet steel, the different parts progress along a line of presses, each contributing its share in the forming operations, until finally the completed parts come out at the end of the line. A high-power electric welding machine that throws sparks twenty feet welds the corners of the chassis to insure both mechanical strength and



Fig. 1. Plant 6, Allegheny Avenue and C Street. This Building is devoted exclusively to the manufacture of component parts

electrical efficiency. All of the metal parts are cadmium plated to make them rust-proof. The illustration in Figure 3 shows workers hanging parts on the conveyor at one end of the cadmium plating machine.

The parts to be plated are hung on the conveyor at one end, and after passing through a series of washing baths and plating baths for a period of fifteen minutes, the plated parts are removed from the opposite end of the

machine ready for use. High-speed automatic machines, shown in Figure 4, far more productive and reliable than the best machinists, turn out completely formed speaker pole pieces from long steel bars which are loaded into the machines at the time of starting. Long brass rods placed in these machines come out as completed shafts for tuning condensers. Every one of these parts is accurately inspected with the aid of micrometer gauges, capable of finding discrepancies in diameter less than a thousandth of an inch.



Fig. 2. Giant Double Crank Punch Presses, exerting 350 tons pressure, forming a sub-base for Philco Radio Chassis

The manufacture of Philco condensers affords one of the most interesting phases of the factory tour. Condenser winding machines, shown in Figure 5, operate in a room which is kept at constant humidity all the year round. Here alternate strips of specially treated wax paper and tinfoil are rolled together to form a fixed condenser. The machines are pre-set to stop automatically after a desired number of turns have been made. In this way condensers of different

sizes can readily be formed on the same machines. These rolls, for they cannot as yet be called condensers, are carefully placed in heavy steel boxes, which in turn are placed in the big vacuum ovens shown in Figure 6. Baking for several hours at a high temperature under vacuum drives out all of the moisture in these partially completed condensers, preparing them for wax



Fig. 3. Automatic Cadmium Plating Machine, 83 feet in length. All metal parts are cadmium plated to make them rust proof



Fig. 4. A bank of Automatic Machines, almost human in their performance, turning out complete speaker pole pieces

impregnation. At a specified time, the vacuum pumps are stopped and wax is allowed to run in, filling up all of the space formerly occupied by the air and moisture and making the condenser unit absolutely moisture proof. The assembly of the condensers in their housings is accomplished on a straight line production basis, each operator having his own part of the work to do. Figure 7 shows the final electrical inspection of by-pass condensers after the assembly is completed.

From the Parts factory, the component units are transported by truck to the main factory, two blocks away, at Ontario and C Streets, where they are assembled into Philco Radio Receivers.



Fig. 7. Philco inspector testing completed By-Pass Condensers

Throughout the various stages of Philco manufacture, quality is predominant. Each part which goes into a Philco Balanced-Unit Radio is made of the finest materials and is subjected to the most rigorous tests and inspections before it is acceptable for use. Philco's factory processes have been scientifically engineered to such a point that there is minimum opportunity for failure of the units in performance. Philco quality standards are far above normal requirements because Philco Radio must operate perfectly under every possible receiving condition. Only Philco can offer such quality merchandise at such astonishingly low prices because only Philco is the largest selling radio in the world.



Fig. 5. The maze of Condenser Winding Machines, operating in a special room of never-changing humidity



Fig. 6. Combination Vacuum and Wax Impregnating Ovens. This treatment makes Philco condensers absolutely moisture proof and trouble free

NEW TRANSITONE ADVERTISING KIT

Here is what you get:—two Cloth Banners, one for store, one for truck; one Outdoor Metal Sign, 6 feet x 2 feet; two Window Streamers; three Lithographed Window Displays in bright, attractive colors; two Window Transfers, for Window or Automobile, and a generous supply of Counter Folders.



The Three Window Display Cards in Colors

Philco dealers will get this Kit of Transitone Advertising Material for only

\$2.00

which is less than half its cost.



Philco Window Streamer



Outdoor Sign—Size, 6 feet x 2 feet, in Color

Order this
Kit from
your
Distributor



Give these Folders to prospective buyers—to help bring them back for a Philco Transitone.

This Cloth Banner can be used on your truck and in your store—put it in a conspicuous place.



Philco Dealers Get of Quota on

200 to 300% Balanced Tubes

Are You Getting Your Share of These

SOME Philco dealers are selling 200 and 300 per cent of tube quota. Some Philco dealers are not even selling quota. Some Philco dealers are not even selling tubes! The comparison almost brutally indicts the laxity in some organizations.

And if dealers could see the PROFIT DIFFERENCE it makes to their pockets they would be sharp and direct in their action to correct it.

Nothing except someone's *indifference* could permit such neglect of this marvelous item of profit.

Consider that the *average* dealer tube sales (including thousands who handle but a few sets) grossed \$1683 last year on all kinds of tubes.

Then, consider your present advantage as a Philco dealer, handling the world's largest selling radio and figure what *your* tube sales should gross, based on the volume of radios you sell.

With Philco selling more radios than all other makes combined, you have the strongest kind of right, as well as obligation, to expect at least your share of Philco Balanced Tube sales and profits.

It is perfectly obvious in analyzing the checkered national picture of Philco Balanced Tube sales, that the difference in results is wholly a difference in organization and effort.

With the public this year so amazingly Philco-minded that radio practically means PHILCO, there is a tremendous acceptance for Philco Balanced Tubes, as every dealer going after the business in the right way has proved by enormous increases.



An Attractive Philco Window Display of Spear & Co.

Frankly, the dealers who have not been doing a tube business are those who have not regarded themselves *in the tube business*—who think of tubes as a sideline of accommodation and a service item exclusively.

Don't longer overlook the tremendous money-making opportunities in the Philco Replacement Tube market. Put your replacement tube department on a business basis with a merchandising motive to get your full; legitimate profit on every tube sale possible.

Philco is giving Philco Balanced Tubes the greatest advertising support ever devoted to promoting tube sales. The advantages of Philco tubes are advertised directly or embodied in every Philco advertisement—in national magazines, newspapers and billboards, more than doubling any previous radio campaign.

Successful dealers are hooking up their selling efforts for these extra profits with the same energetic action that they put back of set sales.

They are using window, counter and store displays, direct letters, mailing cards, free tube-testing in a consistent campaign for this business.

You can just as readily get quota—double or treble—as any other Philco dealer. Train your radio service men to be tube sales-

men sales commissions. This is one of the best. Outside salesmen have splendid opportunities. Philco set you sell, place a complete renewal kit, two extra tubes.

Do this today—be sure your stock of Philco Balanced and complete. With such a stock there is absolutely no carry any other make of tube. By concentrating on a stock of Philco Balanced Tubes you can eliminate a needless investment in other tube lines. And with the tremendous prestige enjoyed by Philco Balanced Tubes, you can meet and satisfy the requirements of any customer.

You are doing any customer a genuine service when you sell him Philco Balanced Tubes, because it is an actual demonstrable fact which records in our possession prove, that they give far better satisfaction than any other type made.

And remember this: Philco tubes are never "gypped"—never dumped in your territory. Controlled production absolutely protects you. And on every sale you make you get your full margin of profit.

Why not give exclusive preference to this line of tubes, which not only insures better satisfied customers, but bigger profits, and genuine protection of the business you build against dumping and "special deals" permitting cut-price competition?

SEPTEMBER 11, 1931

SPARKS from DETROIT

The Car Radio Helps

* * *

And Now Boat Racing

* * *

Shows Abroad

* * *

Road Groups Gather



Chris Sinsabaugh—Detroit Editor

IT'S a little late in the week to be writing about the Harmsworth trophy race on the Detroit River. The less said about the final result of this motor boat classic the better, but there was one happening of interest to automobile people that is well worth recording.

There were more than 200,000 people looking on when Kaye Don, in the English boat, turned over on the first lap, who couldn't understand what it all was about when Gar Wood was flagged down, leaving only one boat left, the one piloted by George Wood, to continue. Outside of the favored few on the docks at the yacht club and those on the Whittier roof none knew what had happened. There was no way of informing the vast multitude that it was a walk-over, so for some little time the spectators stood around and wondered. Then you could see the crowds on the shores diminishing in size—they had started to go home.

How the onlookers learned about the disqualification of Gar Wood and Don puzzled the favored few until it was discovered that many of the cars parked on Belle Isle were equipped with automobile radio and that the information had come to their owners from the broadcast of the Detroit News. It was just another bit of evidence of the growing use of the automobile radio. Without it the crowds would have stuck until dark.

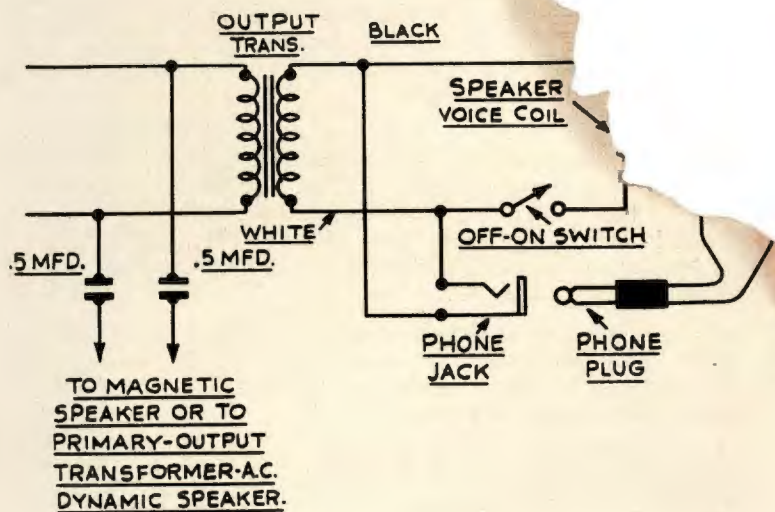
Reprint from Automotive Daily News

Philco Receiver

Radio Headphones

Service Page

Speaker with Philco Radio



Headphones can be connected to any of the Philco receivers without affecting the tone or volume of the loudspeaker. Connection is made simply by attaching the headphones across the speaker voice coil leads, terminals of which are brought out on the frame of the speaker.

Greater operating convenience can be had by connecting a phone jack across these terminals and then equipping the headphones with a phone plug for quick connection. By inserting an "Off-On" switch in the circuit as shown in the diagram herewith, it is possible to obtain reception through the headphones alone when the switch is open, or to obtain simultaneous operation of the headphones and loudspeaker when the switch is closed.

An extra magnetic speaker or an A. C. dynamic speaker with output transformer can be connected to a Philco receiver as shown in the first part of the accompanying diagram.

Connection is made from the two outside primary leads of the Philco output transformer to a pair of .5 mfd. condensers. The opposite sides of the condensers can then be connected to the extra speaker as shown. Care must be exercised to insulate the condenser connections, since this is the high-voltage side of the output circuit.

Improved Reception in Your Store Brings More Sales

A good, clear, radio demonstration in the store, the place where most prospects first display an interest in your merchandise, is a highly important factor in "getting down to business."

The success or failure of most of your sales is dependent to a large extent upon the customer's first impressions. Radio demonstrations to the average customer are either good or bad, and no amount of explaining about local interference or man-made static causing poor reception in the store will serve to erase the feeling that such reception is not in some way due to a fault in the set.

Many dealers are confronted with the handicap of being unable to give successful demonstrations in the store because of electrical interference in the neighborhood. In such cases when the interference cannot be eliminated at its source, the use of shielded lead-in wire will usually reduce the noise to a point where good radio reception can be obtained even in the most congested downtown locations.

When using shielded lead-in wire, it is usually necessary to ground the shielding at one or more points. This means a certain loss in efficiency of the antenna since the shield acts as a grounded plate of a condenser in close proximity to an ungrounded plate—the lead-in wire. By increasing the height and horizontal length of the antenna, however, greater pickup of the radio signal will result and the station signal will be in excess ratio to the noise and interference. The shielding should start as near the antenna as possible, and should continue without an electrical break to the radio set. In many cases it will be well to ground the shield both at the lightning arrester and at the ground terminal of the radio set.

A good lead-in and ground installation in the store, free from unsoldered or corroded joints, will further contribute toward better reception and less noise. In locations where no stations can be heard without an aerial, a convenient switch arrangement is usually desirable to permit quick change-over from one set to another.

These items, although initially more costly than a haphazard installation, will more than pay the difference on just one sale, and many sales will result from clear, noise-free demonstrations.

Installing New Rubber Bushings in Model 212 Tone Arm

The adjustment on the Model 212, which determines the descending position of the needle onto the record, may fail to hold in some cases. Investigation has shown that this condition is caused by the tone arm cutting through the two rubber bushings at the point where the arm is suspended. The tone arm is allowed to rest upon the suspension shaft, causing a loose fit and making it impossible to obtain a permanent adjustment.

New bushings, Philco part 4891, can be installed by removing the two nuts, the collar and the shaft, at the back end of the tone arm. When installing the new bushings, make a careful examination of the holes in the tone arm to see that the edges are free from burrs or sharp points.

Audio Howl in Model 270

A few cases of audio howl on the Model 270 have been called to our attention. If the shipping screws have been loosened so that the chassis is floating on its rubber supports and the howl persists, the condition can usually be eliminated by placing a metal tube shield over the second detector tube.

Fluorescent Glow in Pentode Tubes

A number of tubes, particularly the pentodes, are being returned to the factory marked "GASSY." Investigation shows that these tubes are not gaseous; in fact, they are all extremely good and when placed in a radio set will give excellent performance.

A violet glow around the inside of the glass is mistaken for the gaseous glow between the filament and plate, which characterizes a gassy tube. The real test for any tube is an operating test in a radio receiver. In case of doubt, the violet glow can be shifted about in the space between the plate and the glass by means of a magnetized screw driver, or better, a magnet. A gassy tube will not be affected in any way by the presence of magnetism. The fluorescent glow has absolutely no effect on the quality of the tubes, even though the glow is comparatively brilliant.

Caring for the Phonograph Motor

One of the most frequent reasons for service calls on radio phonograph instruments is distortion of record music, caused by uneven speed of the motor. The condition is often accompanied by a mechanical noise, and is usually caused by lack of motor lubrication, particularly on the governor friction pad.

Instruments which are used frequently for playing records should be lubricated at least once every six months. A good grade light machine oil should be used for the bearings and the governor friction pad, and a light cup grease for the gears of the motor. Access to the bearings can be had by lifting the turntable from the motor spindle.

In some cases, dirt becomes imbedded in the surface of the governor friction pad, after a long period of use, giving the pad a glazed surface where it contacts the governor friction disc. The pad should be scraped with a sharp knife before being oiled so as to soften the surface and allow the oil to penetrate into the felt. If this is done, the oil will be retained for a long period of time and the motor will therefore maintain its correct speed.

It is always a good practice when the service man is called out on a combination instrument to spend five minutes longer on the job lubricating the motor, regardless of the primary reason for the call. It will likely save another needless call at a later date.

PHILCO 24 Tube Poster

Will Bring Business to Philco Dealers



With your name and address imprinted on the Poster at no charge

Tell 'em where to buy!

THIS new Philco Poster is a real business getter. In strong, forceful colors, it will cause people to read and buy. Use this Poster as many Philco dealers are doing with paying returns. Philco Posters are everlastingly on the job selling radios for you. See your distributor about your Poster locations now!



A Philco Billboard in Barcelona, Spain

Three Brilliant Neon Signs for Outdoor and Indoor

The Vertical Neon Sign. Size: 5 feet 3 inches high by 2 feet 4 inches wide. Double faced. For use on A. C. current. Price, \$60. **You pay only \$30.**

The Horizontal Neon Sign. Size: 1 foot 5 inches high by 4 feet 1 inch long, extending 2 feet from wall. For use on A. C. current. Price, \$60. **You pay only \$30.**

Only \$30 to a Philco Dealer. Nowhere else can you secure a genuine Neon sign such as this at the price. It is due only to the fact that Philco has placed such a large order for these signs that this is true, and they not only pass along this saving to you, but have arranged with the Philco jobbers to pay half of the cost, thus saving you many dollars.

Order one of these signs from your jobber or your Philco Branch. They will pay half the cost.

All Prices are F. O. B. Philadelphia

A Neon Window Sign. Size: 20 by 10 inches. Price, \$19.80. **You pay only \$9.90**

The whole sign clearly outlined in Neon, reflected from the Neon border. The true and distorted idea is cleverly pictured with two bars of music above the name Philco. A permanent fixture for your window.



but...there are no seats for sale!



Beginning Oct. 12, from 8:15 to 10:00 P. M.
 Eastern Standard Time

PHILCO PRESENTS
LEOPOLD STOKOWSKI
 and the Philadelphia Orchestra in the
 world's greatest musical broadcasts

If you could secure eight choice seats to the historic Academy of Music in Philadelphia—to the glorious concerts of Leopold Stokowski and the Philadelphia Orchestra—

What a thrill it would give you!

What a chance of a lifetime!

What a sacrifice you'd make to take your family and friends!

But alas, you say—there are no seats for sale! Year after year they are over-subscribed. It is almost impossible to buy seats for these concerts unless you have been a previous subscriber.

But—if you have a good, modern radio—Philco can give you this: Eight seats, or more if you wish, to these marvelous concerts brought to you in the most spectacular broadcasts in radio history!

Not from the chill of a studio background, but direct from the stage of the Academy of Music, swept with storms of applause from a brilliant audience, Leopold Stokowski and the Philadelphia Orchestra will present a series of seven full-length concerts, under Philco sponsorship, over the entire Columbia Broadcasting System.

And you will be part of it all—as though present in person. The excitement—the animation—the arrival of notables—the hush as the master's baton is poised—the volleys of applause—you will thrill to it all.

For 17 years Stokowski has led the Philadelphia Orchestra, acknowledged the world's greatest musical organization.

Now, through these seven concerts, in historic panorama, starting with the early masters in the first program down through the centuries to our sophisticated moderns in the last—he presents the whole glamorous sweep of the music of the ages.

And acoustic tests confirm what trained ears have told, that good radios now being built give you these programs in almost their full concert value and grandeur.

Each will be a coast-to-coast broadcast—a full hour and three-quarters over every station of the Columbia Broadcasting System—the mightiest network ever assembled for a symphonic concert.

You will not want to miss a single program in this eventful series. Hear the first—hear them all. To be sure of the dates, save the schedule listed here. And then, better still, send for the Stokowski Concert Program, illustrated with Leopold Stokowski's portrait and containing the story of the music you will hear.

Broadcast Over Every Station of the Columbia Broadcasting System

Monday, October 12—Pre-Classical	Saturday, January 16, 1932—Modern German
Saturday, November 21—Classical	Saturday, March 12, 1932—Modern Russian
Saturday, December 5—Romantic	Saturday, April 2, 1932—Modern American
Saturday, December 26—Neo-Classic and Modern Romantic	

From 8:15 to 10:00 P. M., Eastern Standard Time

Under the sponsorship of PHILCO—World's Largest Radio Manufacturer

Accredited musical organizations, societies, schools, academies and high schools will be supplied on request with a Philco Superheterodyne for the reception of this remarkable series. Address Philco, Philadelphia, Pa., or your local Philco dealer. © 1931, Philco

STOKOWSKI CONCERT PROGRAM—FREE

IT TELLS: when the concerts will be broadcast; what will be played; who wrote the compositions; the significance of each age of music.

PHILCO, Philadelphia, Pa.

Gentlemen: Please send me the Concert Program for Stokowski-Philadelphia Orchestra Broadcast Series sponsored by Philco.

Name _____

Address _____

City _____ State _____

S. E. P.