

SCOTT



NEWS

NEWS OF LATEST DEVELOPMENTS IN THE SCOTT RESEARCH LABORATORIES

Vol. 13 NEW YORK DETROIT CHICAGO LOS ANGELES BUFFALO No. 1

IN 18 YEARS NOTHING FINER THAN THE SCOTT LAUREATE HAS COME FROM OUR LABORATORIES

**A NEW RECEIVER DESIGNED PRIMARILY FOR THE FINEST HIGH FIDELITY
REPRODUCTION OF LOCAL BROADCASTING PROGRAMS AND RECORDS**

THERE are many thousands of radio enthusiasts in all parts of the world, who place quality of reproduction *first*. These lovers of fine music have dreamed that such an instrument as the Scott Laureate would be built some day—at a price they could afford to pay. It is for these listeners that we have designed this versatile new instrument.



E. H. Scott

The Scott Laureate is different from any Scott we have ever built because it is the first time we have ever designed an instrument to do just one thing—reproduce the tone of every musical instrument and the human voice, either on radio broadcasts or records—with a higher degree of tonal perfection than advanced engineering

and skill were ever able to accomplish before.

The Scott Phantom and Philharmonic are, we sincerely believe, the most complete instruments of their kind ever designed and built. They not only have a tonal quality that has made them the choice of the world's leading musicians and music lovers, but also incorporate such a high degree of sensitivity that they bring to you programs from elusive or weak distant stations that are quite inaudible on the ordinary type of radio.

But there are thousands of other listeners who are chiefly interested only in record reproduction and programs from local and semi-distant stations. It is for these enthusiasts that we have designed the Scott Laureate.

This does not mean that you will be able to receive only local stations on the Scott Laureate. Although it is not considered a highly developed long-distance

receiver according to the standards of the Scott Laboratories, *I nevertheless guarantee that it will outperform any other make of receiver designed for home entertainment in a side by side reception test.*

The final test every new Scott must pass is a very critical one in my own home. This last hurdle each new model must clear has changed many new developments, as I would not give a plugged nickel for any radio, no matter how remarkable its distance performance, if it did not have fine tonal reproduction.

I have been listening to the Scott Laureate for over a month. During the past eighteen years many wonderful instruments have come from the Scott Laboratories, but for tonal perfection I have never built anything finer.

A handwritten signature in dark ink, appearing to read 'E. H. Scott', written in a cursive style.



Tuning Chassis Precision Built Scott Laureate

The New Precision Built **SCOTT LAUREATE**

An Entirely New and Revolutionary High Fidelity Instrument—Designed for Future as Well as Present Broadcasting Systems—and for Finest Possible Record Reproduction

THE new Scott Laureate using 18 tubes (including tuning eye and rectifiers) is not a simplified or abridged edition of the larger Scott Phantom and Philharmonic models, *but an entirely new design built for a specific purpose—the finest high fidelity reproduction of records and local or semi-distant AM broadcast and FM stations.*

It incorporates every feature that pro-

vides the quality of tonal reproduction for which a Scott is famous in all parts of the civilized world, and has been designed for those who want the ultimate in radio and record reproduction, *but who are not particularly interested in distant foreign reception.*

While it is true that the Scott Laureate is capable of bringing in, with good loud-

speaker volume, programs from broadcasting stations in all parts of the country and from short wave stations thousands of miles distant, *it has not been designed as a long distance receiver but primarily as a fine musical instrument for the reception of programs from local or semi-distant stations, and for the finest possible reproduction of records.*

Designed for 99% of Listening Public

A recent survey among radio listeners shows that only a small fraction of 1% regularly tune in the experimental and short wave stations below 19 meters or the commercial long wave bands, but that about 95% of all tuning is on the regular broadcast band. About 4% listen regularly on the 19, 20, 25, and 31 meter bands where the principal short wave stations of the world are located. Undoubtedly, as more of the new high fidelity FM stations go into operation, this ratio will change, and ultimately more listeners will tune the FM band where the tonal range is nearly twice that of our present broadcast band.

The new Scott Laureate is designed not merely for today's broadcasting conditions but for those of the future, and covers the following wave bands:

- (1) The regular AM broadcast band (540 Kc to 1,600 Kc) including all High Fidelity stations at the high end of the band.
- (2) The new FM or Frequency Modulation band (42 Mc to 50 Mc) covering the complete authorized spectrum for FM broadcasts
- (3) The standard short wave band (9.2 Mc to 15.6 Mc) which includes the 19, the 20, the 25, and the 31 meter bands on which the major short wave programs of the world are transmitted.

FM or Frequency Modulation Programs Received on Scott Laureate

There are few radio listeners who have not heard something about the new sys-

tem of FM (Frequency Modulation) broadcasting, which transmits all programs with greatly increased fidelity. The Scott Laboratories were among the first to design FM receivers and have long passed beyond the stage where the FM section is merely an external or separate FM tuner.

When short wave listening first became public, listeners bought a small short wave converter which was connected to their regular receiver. Later, when interest in short wave listening became general, *the short wave section was engineered into the receiver as an integral part of the chassis*, and from the Scott Research Laboratory came one of the first "all wave" receivers that *eliminated the external short wave tuner*.

Once again the Scott Laboratories are leading the way in the design of receivers for FM reception, *for in the Scott Laureate you will find a highly efficient and advanced FM section engineered into the receiver as an integral part of the chassis rather than an external or separate tuner*, enabling you to tune in FM, standard broadcast, and short wave programs *on the one dial*.

Superb Tone Most Outstanding Feature of New Scott Laureate

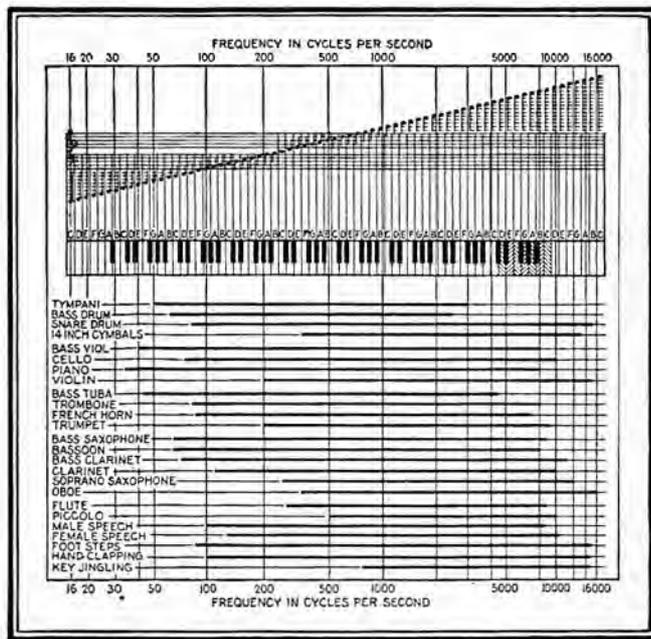
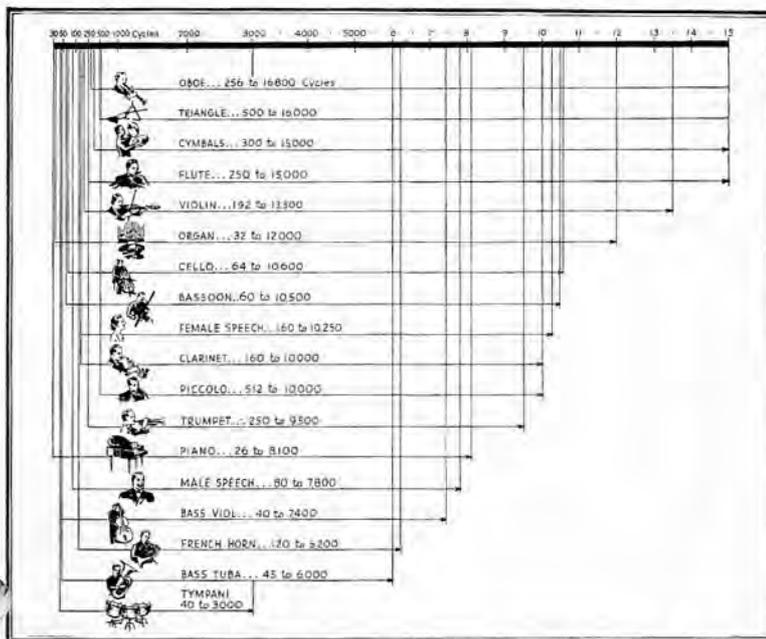
For many years Scott receivers have been a treasured possession of many of the outstanding figures in the world of music including Arturo Toscanini, Jascha Heifetz, Lily Pons, Lawrence Tibbett, and many others. Incorporated in the new Scott Laureate is one of the most highly developed audio systems ever built into a radio receiver, capable of reproducing all frequencies from as low

as 30 cycles up to as high as 15,000 cycles, and when used with the new Scott Coaxial Speaker System, reproduces every single tone and overtone the human ear is capable of hearing.

This simply means that when you listen to a station transmitting the full band of audio frequencies or to high fidelity records, you hear every tone and overtone just as clearly and beautifully as you would hear them if you were in the concert hall itself with the actual artists or instrumentalists.

Few musicians or lovers of good music are radio engineers or have the training to interpret the laboratory curves shown on page 9 which show scientifically just how perfectly an instrument will reproduce musical frequencies, *but every musician knows that if all the tones and overtones of musical instruments or voices are not fully reproduced, the reproduction will not sound natural*.

You may often have wondered why radio programs or records heard on one radio sound so much finer, clearer, more natural than they do on another. The answer is very simple: *The instrument on which the reproduction is so much better has a more highly developed audio and speaker system*. In the final analysis, the perfection of reproduction obtained from any radio receiver or record reproducer depends largely on these two units. Below you will find two charts giving the overtone range of various musical instruments and voice, and they show clearly why reproduction is so perfect on the Scott Laureate with its ability to reproduce every overtone from 30 to 15,000 cycles.



Charts showing the complete frequency range (fundamentals and overtones) of the principal musical instruments and the human voice. The new Scott Laureate is one of the few high fidelity instruments in the world today that has an audio amplifier (30 to 15,000 cycles with 25 watts undistorted output) which when used with the new Scott Co-Axial Speaker, is capable of reproducing—without distorting—the complete range of every tone and overtone shown in these charts.

Complete Volume Range Reproduced Without Distortion

Most music lovers, never having heard the phrase "power output" or "power handling capacity" do not realize its tremendous importance in securing the finest and purest tonal reproduction from either records or broadcast programs.

If an audio amplifier does not have sufficient "power output," you will notice that certain passages of a fine musical program or record sound slightly distorted or fuzzy. You may perhaps have blamed this effect on the station to which you are listening, on the record itself, or even on the loudspeaker, *never realizing that it is because the "power output" of the audio amplifier incorporated in your instrument is simply too small to "handle" the louder passages.*

Perhaps the following illustration will clarify just what we mean by lack of "power output." Some years back automobile engines were of comparatively low power and not particularly efficient. When you were driving on a flat level road they ran quite smoothly, but when you started uphill they would labor and jerk to such an extent that you had to shift into a lower gear.

Today all automobile engines have much higher power, *not necessarily to enable you to travel at 90 or 100 miles per hour, but to provide a sufficient reserve power so that their operation is smooth at all speeds, uphill or down.*

The low powered automobile engines of a few years back may be compared to radio receivers or record reproducers having a power handling capacity of from five to six watts (the power of the average radio sold today) while the modern automobile with its high powered engine is comparable to an instrument such as the Scott Laureate. Its 25 watts undistorted power output *reproduces every shade of expression or volume range from the softest to the loudest passage—exactly as you would hear them played or sung were the artists before you.*

Why Four Stage Push Pull Amplifier Is Incorporated in Scott Laureate

The fidelity of a radio receiver may cover the complete audible range of the human ear, but if a fine musical program or record is distorted or fuzzy because of insufficient "power output" in the receiver, this fidelity range is of little value. Inasmuch as the Scott Laureate is designed to give the finest possible reproduction of programs on the broadcast or FM band, as well as on records, no expense has been spared to make it as perfectly toned an instrument as skilled, advanced engineering can make it.

Incorporated in its design is every basic circuit and feature that is used to secure the marvelous tone in the Scott Philharmonic, the instrument that is

today generally recognized as the ultimate in tonal perfection.

In the inexpensive type of receiver, a single stage of audio amplification is used, but a serious disadvantage is the great amount of distortion which occurs on programs having wide volume variations, such as symphonic broadcasts. The average medium priced radio receiver incorporates two audio stages, while a few of the very high priced models employ three stages of audio amplification.

However, in the Scott Laureate, four stages of audio amplification are used, to develop a power output rating of 25 to 40 watts, approximately five times the power output of the average radio receiver or record player combination.

New Type Bass Control System

The fidelity of all radio stations, or records, is not the same. On some programs or records you will notice that the bass is very heavy and boomy, while at other times you miss it entirely. To secure the most natural reproduction the bass response should be *natural*, neither too heavy nor too light.



The 15" Standard High Fidelity Heavy Duty Speaker Used in the Scott Laureate

In the Scott Laureate is incorporated a new and highly efficient bass control which is the result of extensive research in our Laboratories. It amplifies or reproduces *only the bass or lower tones*, having no effect on the middle and higher tones or overtones.

When the bass control on the average radio receiver is operated, the reproduction often becomes very boomy, giving merely the *impression* of more bass on all programs whether they contain any appreciable number of bass frequencies or not. When you operate the Bass Control on the Scott Laureate *it builds up the bass tones only*, giving the reproduction a full rich quality. However, if the program or record you are listening to has little or no bass tones, then the

operation of the bass control on the Scott Laureate will have little or no effect.

This fact is a simple means of proving that the new Scott Laureate bass system amplifies only the bass frequencies. After all, what the critical music lover wants is not an artificial bass quality, but rather a complete accurate reproduction of the original and that is exactly what we provide in the Scott Laureate.

An examination of the Laboratory fidelity curves shown on page 9 will give some idea of the wide range of this new Bass Control System.

Perfected Treble Control

On direct studio programs the fidelity on most broadcast band stations is practically flat out to 8,500 cycles, the limit of fidelity allowed by the FCC for stations on the broadcast band. On FM stations, however, approximately twice this range, or frequencies up to 15,000 cycles, can be transmitted.

Built into the Scott Laureate is a variable Treble Control which is available not only on programs received over the air but also on records as well. This control enables the listener to compensate for certain deficiencies in broadcasting and recording.

For example, when listening to a chain program, the higher frequencies are generally reduced to less than 6,000 cycles by the telephone lines over which the program comes to your local station. In this case, by advancing the Treble Control, the higher frequencies that do come thru can be amplified so that the naturalness of reproduction is greatly improved.

New Standards of Record Reproduction

One of the chief reasons why many of the world's leading symphony orchestra conductors, celebrated instrumentalists, and vocal artists have chosen a Scott for their own personal use is for its marvelous reproduction of records. These artists listen critically to their own recorded works, and it is absolutely necessary that the reproduction be as near as possible an exact duplicate of the original so that every minute detail of the performance may be checked and studied.

This means that not only must the reproduction of all tones and overtones be perfect, but what is equally important, the delicate shadings, the wide dynamic variations in volume, the details of expression and interpretation must be reproduced clearly and without the slightest distortion. In the Scott Laureate the record enthusiast will find the kind of reproduction that will bring him untold pleasure for many years to come.

Highly Developed Inverse Feedback System Further Improves Quality of Reproduction

Theoretically, the response of the perfect loudspeaker when measured elec-

trically would take the form of a straight horizontal line on a graph. In practice, however, the response curve of even the finest loudspeaker available today deviates considerably from this ideal straight line. Every "peak" in the curve indicates that the speaker falsely accentuates tones at this frequency, while every "dip" or valley means that tones in this register are attenuated or made softer than the original. Such variations in the reproduction are, of course, forms of distortion which can never be countenanced by keen judges of musical values.

In the Scott Laureate, an improved system of Inverse Feed-Back is used which automatically smooths out the "peaks" and "dips" in the speaker response, restoring the unduly accentuated or attenuated tones to their original proportions so that they are heard just as naturally as when they entered the loudspeaker.

Heavy Duty High Fidelity 15" Speaker Reproduces All Degrees of Volume Without Overloading

The large, heavy duty, High Fidelity 15" speaker of the Scott Laureate, is probably one of the most highly developed speakers incorporated in any radio receiver available today, reproducing frequencies up to 9,000 cycles, a fidelity range far beyond that of the ordinary type of loud speaker. It incorporates the very latest developments in loudspeaker design with a curvilinear cone and heavy voice coil which enables it to handle without distortion even the loudest passages.

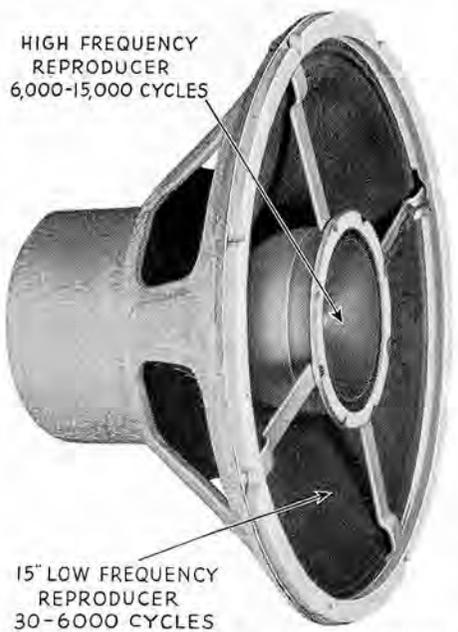
Special Scott Co-axial Speaker Available for Reproduction Up to 15,000 Cycles

If you are interested primarily in securing the finest reproduction possible from regular AM broadcasting stations, the new FM stations which transmit frequencies up to 15,000 cycles, and the latest high fidelity records, the Special Scott Co-axial Three Unit Speaker System is recommended. This is a special system that consists of a low frequency speaker, a high frequency reproducer and a special dividing network. The latter unit shunts frequencies from 30 to 6,000 cycles to the large 15" speaker, and those from 6,000 to 15,000 cycles to the high frequency reproducer providing uniform fidelity thruout the entire tonal range. This new speaker system especially designed for the high fidelity characteristics of the Scott Laureate, can be furnished at an additional cost of \$19.50. Its fidelity range is shown in figure 6, page 9.

No Outdoor Antenna Required With Scott Laureate For Local Station Reception

Prospective purchasers who find it impossible to erect an outside antenna will

be glad to know that the new Scott Laureate is designed so that it will provide excellent results on the special Scott Duplex Antenna which is an integral part of the receiver.



HIGH FREQUENCY REPRODUCER
6,000-15,000 CYCLES

15" LOW FREQUENCY REPRODUCER
30-6000 CYCLES

The New Three Unit Co-Axial High Fidelity Speaker—with 15" Low Frequency combined with High Frequency Reproducer (dividing network not shown)

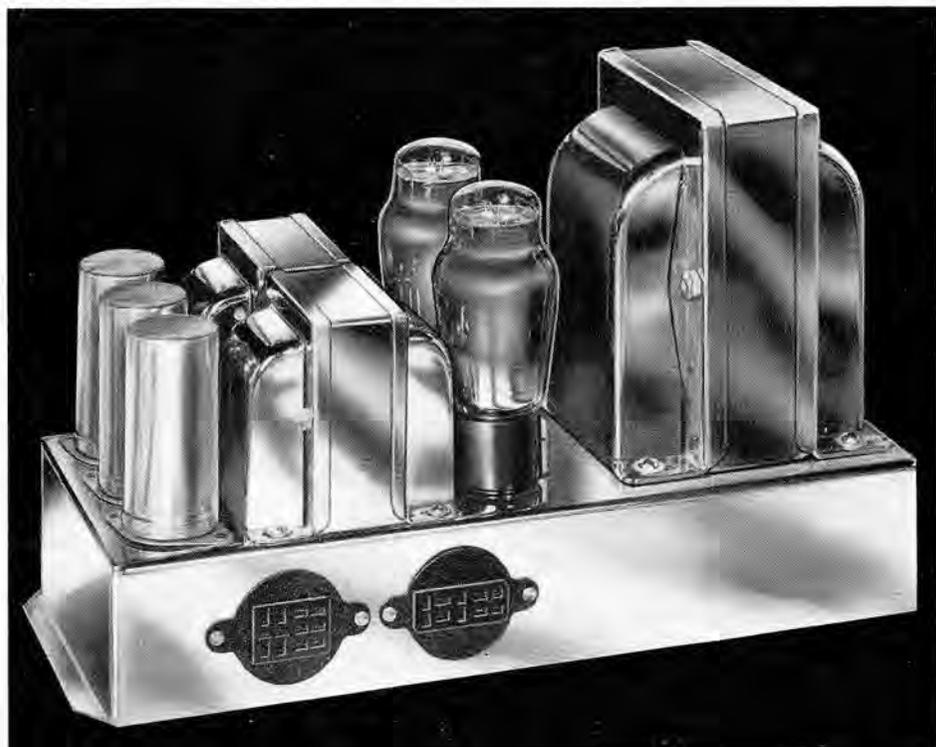
This highly specialized loop antenna should not be confused with the conventional type generally furnished with most receivers using a loop antenna, for there are several major differences. Instead of only one simple loop as is usually the case, the Scott Duplex Loop

Antenna is actually *two separately tuned loops*. One of these loops is specially designed for reception on the broadcast band, while the other is especially designed for shortwave reception. This provides not only finer local reception with a minimum of interference from other stations, but also much greater signal pickup when tuning foreign short wave stations.

While the Scott Duplex Antenna System furnished with the Scott Laureate is much more efficient than the conventional loop, connections are provided for connecting the Scott Super Double Doublet Antenna System, so that distant stations can be brought in with good volume. Binding posts are also provided to which can be connected the especially designed dipole antenna for FM broadcasts if you require additional pickup for FM programs.

Good Tone Only One Factor in Fine Local Reception

It should be remembered that good local reception is determined not only by the quality of reproduction, but also by its *freedom from interference and extraneous noises*. Every location has a certain amount of electrical apparatus which often causes disturbances in the receiver even when it is tuned to local stations. What is really bothersome is not the noise itself, but rather the strength or intensity of the noise as compared with the strength or intensity of the incoming broadcast. Therefore, it follows if we increase the strength of the broadcast, the effect on your ears is exactly the same as if you had reduced



The New Scott Laureate 25-40 Watt Power Supply

the strength of the noise by this same proportion. One way to increase the signal strength without a corresponding increase in noise is by installing the Scott Super Double Doublet Antenna System which is so designed that it feeds a signal into your receiver many times stronger than it is possible to secure with the most efficient loop ever designed.

Tuned RF Amplifier Provides Finer Local Reception

The new Scott Laureate incorporates one of the most highly efficient tuned RF stages ever built into a receiver, for its design is such that it develops a gain twice as great as two ordinary RF stages.

The less expensive receivers use no RF stage at all on account of the cost involved. The average high grade radio employs only a two-gang condenser, which makes it necessary to use an *untuned* RF stage. In the Scott Laureate a three-gang variable condenser is used so that the RF stage may be tuned, and in addition *the full gain of the RF tube is available, as the RF coil is shielded, instead of exposed and unshielded, as is usually the case.*

Many people may wonder why we use a Tuned RF stage in a receiver designed specially for the reception of local and semi-distant stations. There are three reasons for this. First, because it provides an increase in signal strength *without a corresponding increase in receiver noise*, thus contributing to a better Signal-To-Noise Ratio.

Second, an efficient tuned RF stage increases receiver selectivity, a very important point for the local-station listener. Naturally, when listening to a fine musical broadcast you do not want the reception marred by another station which can be heard in the background. The extra selectivity provided by the highly developed Scott RF stage makes it possible to eliminate such adjacent station interference entirely, or at least to reduce it to a level where it is virtually imperceptible.

Third, the highly developed tuned RF stage provides much smoother reproduction of all broadcasts inasmuch as it does not cause fuzziness, whistling, or distortion which is often caused by powerful stations on adjacent channels.

Two Precision Engineered IF Stages Incorporated In Scott Laureate

In a fine receiver designed for local or semi-distant station listening, an IF amplifier is required with sufficient Sensitivity and Selectivity to prevent the overloading and distortion which often mars an otherwise beautiful program on ordinary receivers. The use of a two stage Iron Core IF Amplifier, incorporating two tubes, is an ideal solution, and this is the system employed in the new Scott Laureate. It not only provides ample Sensitivity and Selectivity

for the reception of local or semi-distant stations, but also eliminates the overloading and distortion present in a receiver having only one stage of IF Amplification.

Variable Selectivity Provided for Either Local Station or Distant Reception

The chief purpose of a variable Selectivity Control is to enable the listener to select a distant station which is adjacent in frequency to powerful locals, and receive it without interference.

If a receiver does not incorporate a variable Selectivity Control, the design of the set must be a compromise on (1) the broad degree of Selectivity that is required for the most desirable high fidelity reception on local stations, and (2) the sharp degree of Selectivity for the reception of distant stations.

As a result of this compromise the tuning is too "sharp" to provide the full fidelity the receiver is capable of giving, yet too "broad" in certain cases when extreme selectivity is necessary. The variable Selectivity Control enables the listener to change the band width to obtain the finest possible reception from either local or distant stations.

Each section of the radio receiver acts as a sort of highway or channel thru which the incoming broadcasts must pass. Obviously, if these channels are not wide enough, as in the case where no variable Selectivity Control is provided to adjust the band width, some of the tones of the broadcast are chopped off, and the result is that you do not hear the important characteristic overtones which give timbre and individuality to voice and music.

By means of the Variable Selectivity Control incorporated in the Scott Laureate, the Selectivity may be varied so that in the minimum or sharp position only a very narrow channel of frequencies is admitted, whereas in the broad position the full band width is admitted, allowing the complete overtone range of a high fidelity broadcast to pass thru.

This means that it is possible to adjust the receiver so that the maximum fidelity can be secured on every program.

Short Wave Band Brings the News of the World Direct

While the Scott Laureate has not been designed primarily as a long distance receiver, we have incorporated one short wave band which enables you to tune in the major short wave stations in all parts of the world. While few people today spend any great length of time listening to foreign short wave broadcasts, everyone will find it extremely interesting to listen for a short time each evening to the news broadcasts as they come *direct* from Europe.

The reason so many owners of radio receivers with short wave sections do not spend much time tuning in foreign short wave stations is *because of the difficulty in locating them on the dial*. But once a short wave station has been tuned in on the Scott Laureate it can be logged *then tuned in again just as easily and accurately as any station on the broadcast band*. Incorporated in the dial you will notice at the top a separate micrometer logging scale. Once you have tuned in a station you simply make a note of the number on the logging scale, then any time you wish to tune in this particular short wave station again all you do is set it to that particular number, turn up the volume, (provided of course the station is actually on the air and a signal is reaching your antenna) and in it will come. This makes it just about as easy to tune in a short wave station on the Scott Laureate as it is to read the time on your watch.

Strict Precision Construction

In all respects the new Laureate is a Scott in every sense of the word. The Tuner and Power Supply, beautifully chromium plated, are mounted on two separate 14 gauge steel chassis in order to avoid the objectionable hum experienced with many commercially available instruments which combine the two units on one base. Every part is of exactly the same high quality found in the large Scott instruments. It is built by the same highly skilled technicians, and is identical down to the finest detail of adjusting, checking and testing. Each vital section of the instrument is hermetically sealed and impregnated so that the instrument will give continuous trouble-free service for many years.

Five Year Guarantee

The best proof that the workmanship and quality of parts used in the new Scott Laureate are identical with those in the larger Scott Phantom and Philharmonic instruments is the fact that we guarantee it for the same length of time, namely *five full years*. Every part except tubes will be replaced free of charge upon return to the Laboratories.

30-Day Trial

The Scott Laureate is made to order in limited numbers only, and you have 30 days in which to convince yourself that it is the finest instrument of its kind available today. *There are no strings or hidden conditions to this offer*. This booklet gives a complete description of the major features incorporated in the Scott Laureate, and we have tried to be exceptionally conservative. *If the new Scott Laureate does not give you the kind of performance we describe—or even the kind of results we have led you to expect—then merely return it to the Laboratories within 30 days and we will refund the complete purchase price.*

SCOTT De Luxe CONSOLES



THE VICTORIAN An attractive period console accommodating the Laureate or Phantom Deluxe with Automatic Record Changer, available in either mahogany or walnut. It combines old world charm with sturdy construction and excellent acoustic qualities.

THE cabinets illustrated below are designed especially for Scott radio receivers and record playing combinations. The tonal reproduction of even the finest instruments can be spoiled by a cabinet that is not acoustically perfect. Scott consoles are designed and built with careful attention not only to their external design but also to the acoustics and the area of the baffle space, thickness and density of the woods, size and shape of the tone chamber, are all carefully worked out. As a result, Scott consoles, in addition to being acoustically perfect, are fine pieces of furniture that will grace the most luxurious home.



THE SHERATON The classic lines of this beautiful 18th Century English design enables it to blend ideally with any type of home furnishings. It will take either the Laureate or Phantom Deluxe with Automatic Record Changer. Available in either mahogany or walnut.



THE WARRINGTON An upright console, designed with careful attention both to beauty of line and maximum acoustical response. Will accommodate either the Laureate, Phantom Deluxe, or Philharmonic. Available in walnut only. For radio only—does not have space for Automatic Record Changer.



THE NEW OXFORD Our newest console, designed for the Laureate with Automatic Record Changer. A Chippendale period cabinet of unusual beauty. Available in either walnut or mahogany.



THE WELLINGTON An upright console, in the 18th Century tradition, moderately priced and beautifully finished in dull rubbed walnut. Will accommodate either the Laureate, Phantom Deluxe, or Philharmonic with Automatic Record Player above the radio. Ideally suited for rooms where floor space is limited.



THE REGENT An unusually beautiful period console in rich mahogany. The model illustrated here will house either one of our three receivers complete with speaker, or the receiver and record changer only; the latter combination requires the separate speaker console, illustrated at right.



THE CHIPPENDALE This magnificent console will house either the Laureate, Phantom Deluxe, or Philharmonic with the Automatic Record Changer. Its exterior design with its characteristic Chippendale detail, and hand-rubbed mahogany or walnut finish, combines with gracefulness and acoustic perfection to present a console which is at once a beautiful piece of furniture and a perfect medium of sound reproduction.



THE REGENT SPEAKER CONSOLE An exceedingly handsome speaker console. A companion piece of the Regent receiver and record changer console. Its outstanding acoustic properties give the tone of the reproduction life like depth and fidelity. Fitted with a Scott-Tauscher Sound Board Unit.

Technical Description of New SCOTT LAUREATE

THE Scott Laureate is an 18 tube superheterodyne receiver providing for AM reception in the broadcast band of 540 to 1600 kilocycles, the short wave range of 9.2 to 15.6 megacycles which includes the 19, 25 and 31 meter bands, and for FM reception in the assigned band of 41 to 50 megacycles.

Completely separate tuning sections are employed for the AM and FM reception. The AM section consists of one r.f. stage, one combination mixer-oscillator, two stages of i.f. amplification and 2nd detector—AVC. The FM section consists of one r.f. stage, one combination mixer-oscillator, two stages of i.f. amplification, one limiter stage and a discriminator frequency detector. Either of these tuner sections may be switched to the input of the four stage 25 watt audio amplifier.

A block diagram of the basic circuit functions is shown below.

THE AM SECTION

To simplify the problem of antenna installation the Scott Laureate is equipped with a built-in duplex loop aerial capable of good signal pickup in both the broadcast and shortwave bands. Each of these loops form a part of the input tuned circuit in their respective bands and, therefore, a maximum amount of the available signal is fed to the grid of the r.f. amplifier tube. A high Q, consistent with stability, also contributes to the most efficient utilization of the incoming signal. Provision is made for the connection of an external or outside aerial to the receiver, so that satisfactory results may be obtained in remote locations or where optimum results on the short wave bands are desired.

Radio Frequency Amplifier

R. F. amplification is provided by a 6SK7GT tube employing a tuned plate circuit in both AM bands. By this arrangement an image and spurious signal rejection ratio comparable to that of the Phantom Deluxe

is obtained. The sensitivity in both bands is also brought up to the point where optimum results from the built-in aeriels may be realized.

Greater gain and ease of tuning is provided in the short wave range by switching small fixed condensers in series with the main variable condenser to reduce the tuning range to that of the principal foreign shortwave broadcast bands.

Mixer Oscillator Stage

A 7J7 loctal type tube serves as a combined mixer and oscillator. The mixer characteristics of this tube are almost identical with those of the 6L7G type which has been used in other Scott

models for several years. The combination mixer oscillator feature is applied in its most efficient and stable form by using a mixer tube designed for minimum reaction between the signal and oscillator circuits. The mixer and oscillator sections of the 7J7 are in reality separate tubes in one envelope with an internal connection similar to that used externally between the 6L7G and the 6J5G.

The components associated with the oscillator have been designed to reduce possibilities for frequency drift to a minimum.

The Intermediate Frequency AM Amplifier

The I.F. stages tuned to 455 K.C. employ a 6K7G tube in the first amplifying stage and a 6B8G tube in the second amplifier, second detector and AVC circuit.

Four degrees of variable selectivity are provided for combination with an audio treble control to provide seven steps of audio high frequency variation. The selectivity and bandwidth data shown in Figure No. 2. It will be noted that adequate selectivity is available for separating closely spaced short wave signals, with a degree of variation which allows for maximum high fidelity performance in the broadcast band.

2nd Detector and AVC

The 6B8G, which functions as the 2nd i.f. amplifier, also contains diodes which are used to rectify the incoming AM signal, producing audio voltage and a D.C. voltage suitable for automatic volume control. The latter is accomplished by applying the d.c. diode voltage back to the grid circuits of the r.f. mixer and 1st I.F. tubes all of which have variable gain characteristics.

The audio voltage appearing across the 2nd detector load is fed to a resistance capacity network which equalizes the attenuation of the i.f. stages at the higher modulation frequencies and restores them to a level satisfactory for application to the

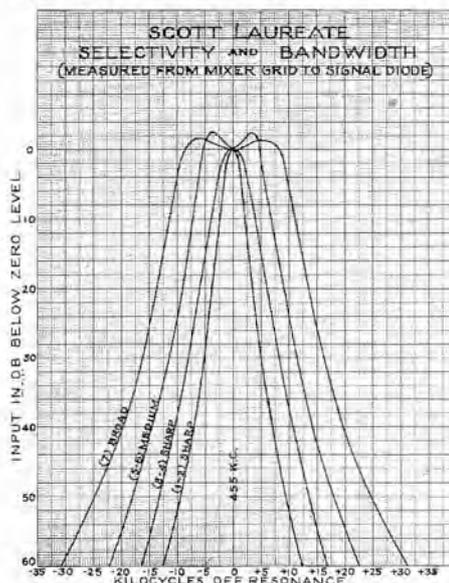
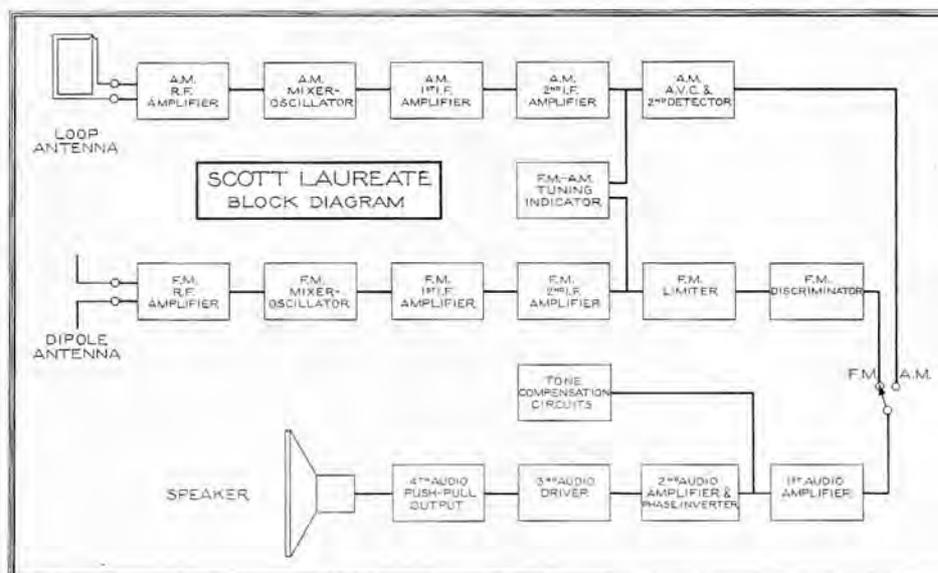


Fig. 2



grid circuit of the first audio tube.

THE FM SECTION

Antenna terminals are provided so that either an indoor or outdoor dipole aerial may be attached. If the listener is located within a 5 or 10 mile radius of a commercial FM station, he may find that satisfactory noise-free reception is possible with a short indoor single wire or a two wire aerial consisting of 6 foot lengths of conductor.

The R. F. Amplifier

A 6AB7 high mutual conductance pentode provides an efficient gain in the ultra high frequency range. It is also preferable to certain other types which load the antenna circuit excessively. The combined aerial circuit and r.f. stage gain is adequate for an optimum signal-to-noise ratio on weak FM signals.

The FM Mixer-Oscillator

The 6SA7 tube employed as a mixer and oscillator in combination functions to permit maximum r.f. stage gain because of its reduced loading effect on the signal input circuit. The use of a composite oscillator also results in the introduction of sufficient oscillator voltage for optimum conversion ratio without resort to coupling methods conducive to frequency instability.

The oscillator circuit is temperature compensated for frequency drift by a special resistance-capacity combination which responds to temperature variations within the receiver.

The Intermediate Frequency FM Amplifier

Two stages of IF tuned to 5.25 megacycles are equipped with 6AC7 type tubes, which furnish the maximum stage gain obtainable at this frequency for FM reception. Each circuit is properly loaded to provide the correct degree of bandpass for the wide band signal, which swings over a maximum of 150 K.C.

The Limiter Stage

Limiter operation is essential in an FM receiver if minimum distortion and minimum noise are to be obtained under all conditions. This action also serves to provide the equivalent of an almost perfect AVC system.

A 6SJ7 tube operating as a combination grid and plate circuit limiter holds the i.f. voltage input to the frequency detector constant above a predetermined level.

The Frequency Detector

A balanced diode type discriminator detector recreates a linear high fidelity audio signal from the wide band FM

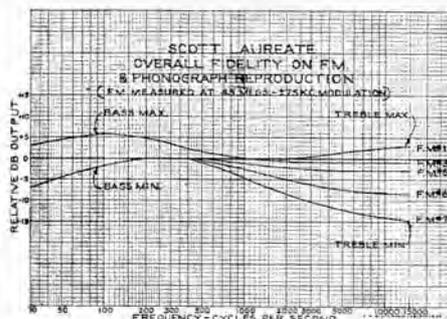


Fig. 3

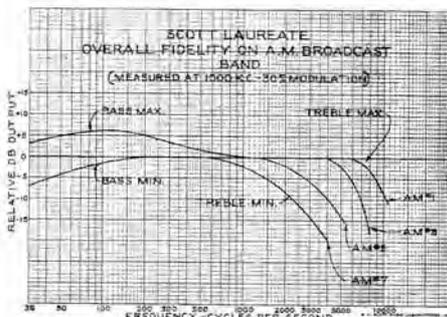


Fig. 4

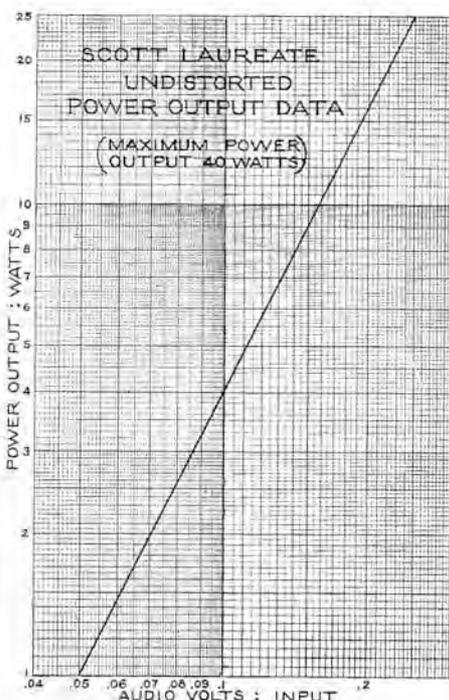


Fig. 5

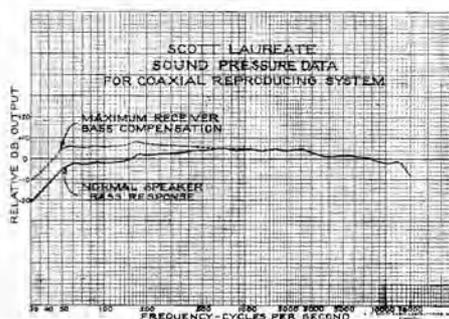


Fig. 6

signal. Maximum audio output and optimum balance to noise disturbances result from the circuit arrangement.

A 100 micro-second de-emphasis circuit follows the audio diode load and restores the audio frequency level to the high fidelity characteristics of the FM station program.

The First Audio Stage

The chief function of the 1st audio stage is to provide amplification with a wide degree of possible variation at both ends of the audio frequency spectrum, so that a practical degree of bass and treble control may be realized.

The bass compensation is effected by means of a resistance-capacity combination in the plate circuit of the first audio tube. The degree of bass response is regulated by varying the amount of resistance in the bass load circuit. The effect of the electrical bass compensation is shown in Figures Nos. 3 and 4.

A 6J5G tube is used in this stage.

The Second Audio Stage

The second audio stage employs a 6J5G tube as a plate-cathode type of phase inverter. This circuit is the most reliable one from the standpoint of maintaining balanced conditions. Low resistance loads in both the cathode and plate circuits supply the audio input voltage for the following audio driver stage, without loss of high frequency response.

The Audio Driver Stage

A 6C8G tube (two triodes in one envelope) acts as a high gain push-pull driver stage preceding the 6L6G output tubes. Since it consists of two balanced high gain triodes, its output circuit is most suitable for a balanced negative feedback from the plate circuits of the 6L6G tubes.

The Output Power Amplifiers

Two 6L6G tubes operate in push-pull with about 20% of their respective output voltage fed back from the plate to the grid circuit for the reduction of audio distortion and hum voltages. This feedback arrangement is the type which increases the damping in the plate circuit and consequently reduces transient distortion in the loudspeaker system.

Two 6L6G tubes operated in this manner provide an undistorted audio output of approximately 25 watts and a maximum audio output of approximately 40 watts. In Figure No. 5, the curve of power output VS. audio input voltage at the phonograph terminals is shown. It will be noted that the linearity indicates negligible distortion and the high power sensitivity assures satisfactory operation with low level crystal phonograph pickups.

SCOTT LAUREATE

Reaches New Heights of Perfection

IN RECORD REPRODUCTION

A Few Pointers On Selecting A Record Playing Combination

ONCE you have listened to a fine record of a great symphony orchestra reproduced through the Scott Laureate, your whole idea of recorded music will change, and you will quickly realize that up to this time you have been hearing only about half the complete tonal range of most musical instruments.

Listening to the new high fidelity records through an ordinary combination, then hearing the same reproduction through the Scott Laureate, is about the same as comparing a black and white view of a landscape, with the same picture reproduced in all its vivid naturalness in true color. So sure are we of the tremendous difference you will find between the record reproduction from the Scott Laureate and that of any other radio and record playing combination, that we will promptly refund your money if the reproduction of a high fidelity record on the new Scott Laureate is not as good or better than the finest broadcast you can tune in on your radio.

Reproduces Full Range of New High Fidelity Records

Up to quite a short time ago it was not thought possible to successfully record tones lower than about 80 cycles per second, nor higher than approximately 4,000 cycles. Today, however, the finer high fidelity records have a frequency range of from about 30 up to as high as 10,000 cycles, nearly three times that of the older records.

But when these records are played through the average radio combination whose frequency range extends only from about 80 to 4,500 cycles, most of the realism obviously is lost. The audio amplifier in the new Scott Laureate has a frequency response of from 30 to 15,000 cycles, so that it is fully capable of reproducing the highest range that has been cut into the finest recordings made up to this time.

The Scott Laureate when combined with either the Garrard or Imperial automatic record changers, becomes a complete record playing combination, providing, we sincerely believe, the finest high fidelity record reproduction

available today, not even excepting the professional equipment used for reproducing the high grade electrical transcriptions you hear from a broadcasting station.

If guests arrive at your home while a record is being played you will invariably find they assume you are listening to an unusually fine radio broadcast . . . the sterling test of record reproduction.

High Quality Record Reproduction Depends Largely on Audio System and Loudspeaker— Not Record Changer

There is a good deal of confusion as to what part of a combination instrument is responsible for the quality of reproduction you hear from records. Actually, no one thing is entirely responsible. Perfect record reproduction depends on the close teamwork of the audio system, loudspeaker, and lastly,

the pick-up head of the record changer. Each is equally important, for if one fails the others cannot compensate for its lack.

The purpose of the record changer is merely to change the records, and is exactly what its name implies—a changer of records. It is surprising how many people are under the impression that the record changer is responsible for the tone you hear reproduced from a record, and do not realize the record changer is merely a piece of mechanism which, when one record ends, automatically places another one on the turntable so that you do not have to leave your chair every time a record is finished.

The Pick-up Most Important Part of Record Changer

Actually, the most important part of the record changer is the pick-up head, for it is through the pick-up that the



THE GARRARD PRECISION BUILT AUTOMATIC RECORD CHANGER

Standard and Deluxe Garrard Precision Built Record Changer plays automatically 8 ten-inch or twelve-inch records intermixed in any order . . . Plays any type of commercial or home recording singly . . . Record slip eliminated by record spindle sleeve of unique design . . . Record playing surface of record never in sliding contact with mechanism at any time . . . Silent operation during playing of record because all changing mechanism idle . . . Record changing action only eight seconds . . . Perfected automatic stop switches off current and stops changer when last record played . . . Instantly rejects any undesired record . . . **Standard** model equipped with special compensated feather-weight Crystal pick up with permanent built-in sapphire needle . . . **Deluxe** model equipped with professional type Magnetic pick-up, giving superlative reproduction . . . Both changers have powerful smooth running induction type motor completely enclosed and dust proof . . . Costs less than 1/2c per hour to operate . . . Built-in speed gage enables turntable to be set at **precisely** correct speed.

music or sound is transferred from the face of the record to the audio and speaker system in your radio. If the response of the pick-up is poor, then the final quality you will hear from your records will be poor, regardless of the excellence of the audio system and loud-speaker. If the pick-up is a high grade unit with a good fidelity response, then, provided the audio and speaker system are high grade units, the reproduction will be correspondingly good.

Two Types of Pick-ups Used in Record Changer

Two types of pick-ups are generally used today in record changers, the Crystal pick-up and the Magnetic pick-up. The former is used in practically every standard record changer, while the Magnetic type of pick-up is employed in the higher priced deluxe models. Provided the Crystal pick-up is a high grade unit and is scientifically compensated, its reproduction is a very close approach to that of the Magnetic type. However, for extremely critical ears and the finest possible record reproduction the deluxe changer with the Magnetic pick-up head (the same type used in broadcasting studios) is recommended.

Purpose of the Pick-up

The purpose of the pick-up in a record changer is to track the needle in the record groove, then convert the delicate magnetic vibrations cut into this groove into electrical impulses to be reproduced through the loudspeaker. *From a mus-*

ical standpoint the pick-up is the most important unit of any record playing mechanism. No matter how fine the radio may be, it can reproduce only what the pick-up transmits to it.

The Crystal Pick-up

The Crystal pick-up heads incorporated in both the Garrard Standard and the Imperial record changers are specially Compensated Rochelle Crystals giving especially fine reproduction. The peaks and dips in the crystal response are effectively smoothed out *without in any way affecting those portions of the frequency curve which are accurately reproduced.*

Magnetic Pick-up Used on Garrard Deluxe Model

The Magnetic pick-up head incorporated in the Garrard Deluxe record changer is, we believe, superior by a considerable margin to any similar type available today. The tones in the upper register are round, clear-cut and *natural*. Each bass note is a suavely solid tone, the pitch and timbre definite and well rounded. The response is virtually flat thruout its range, and the final result is what we believe to be the most beautiful overall reproduction of recorded voice or music so far achieved.

Tracking on Scott Record Changers 97% Perfect

The scientific tracking of the pick-up arm is very important in any record changer. If the tracking error is more than 5%, reproduction will be poor, needle scratch increased, and records

will wear out rapidly because the record grooves will be distorted and mis-shaped by the needle.

The pick-up arms on both the Garrard and Imperial record changers keep the needle directly in the centre of the record groove, maintaining a constant perfect tracking that is over 97% perfect—a tracking error of less than 3%. This means the needle remains parallel to the record grooves within 3% from beginning to end, reducing the needle wear on the wall of the groove, thus affording maximum protection to the most easily damaged section of the disc. Only with the needle in this position are you assured of beautiful reproduction and long record life.

Separate Bass and Treble Controls on Record Reproduction

The two controls used in the Scott Laureate for regulating the degree of treble and bass response on broadcasts received over the air *are also available to regulate the response on records* to insure their reproduction in all the clarity and beauty of the original orchestra and can be adjusted to the exact degree and balance you want.

The Crystal pick-up used with the Garrard Standard and Imperial, and the Magnetic pick-up head used with the Garrard Deluxe, are scientifically matched to the acoustical and electrical properties of the audio system incorporated in the Scott Laureate, so that you obtain the full benefit of its high fidelity characteristics, and have at your fingertips the music you want, as you have always wanted to hear it played.

Brief Description of Record Changers

The two record changers we furnish are illustrated on this and the preceding page. One instrument, the Imperial, is undoubtedly one of the most efficient and well made units of its kind available at the present time. The other, the Garrard, is a real precision instrument and is furnished in two models—the Standard and the Deluxe.

Both changers are extremely simple to operate and virtually fool-proof. You can play any number of records up to the full capacity of each machine by simply loading them in the magazine and starting the changer in operation, thus providing nearly one hour of continuous entertainment. Each record automatically settles on the turntable and the pickup arm is slowly lowered by the changer to its correct starting position on the record. When the record is finished playing, the pickup is automatically returned to its starting position, ready to play the next record. This process continues automatically until every record in the magazine has been played.



THE IMPERIAL AUTOMATIC RECORD CHANGER

Automatically plays up to 10 records either ten-inch or twelve-inch . . . Manual switch for playing commercial records or home recordings singly . . . Rejection Control instantly rejects an undesired record . . . Special compensated high-fidelity Crystal pick-up . . . Permanent Built-in Sapphire needle . . . Powerful Induction motor.

NEW IMPROVED

Scott-Tauscher Sound Unit

AMAZES MUSIC LOVERS

NOW AVAILABLE FOR ALL MAKES OF RADIO RECEIVERS



When the Tauscher Sound Board Unit was introduced last Fall it created a sensation among music lovers. For the first time they heard tones of instruments and voices coming from broadcasts received over the air and from their favorite recordings with a more natural quality than they had ever heard before. The new Scott-Tauscher Sound Board Unit (fully protected by Tauscher Patents and Scott Patents Pending) is the result of extensive research that has been carried on in our acoustical laboratories to duplicate in your own home with even greater efficiency, *the same conditions under which you listen to music or voice in the concert hall or studio.*

Sound Boards in Violins and Pianos

The original conception of this revolutionary method of sound distribution was made by Mr. Arno Tauscher, a skilled old world craftsman who has been making fine violins for over 40 years, and who started his experiments in sound boards for radio speakers over twelve years ago. It is well known that the tone of the stringed instruments such as the violin or piano do not come to your ears from the strings themselves, but from the surface or forte holes of the sound chambers of these instruments.

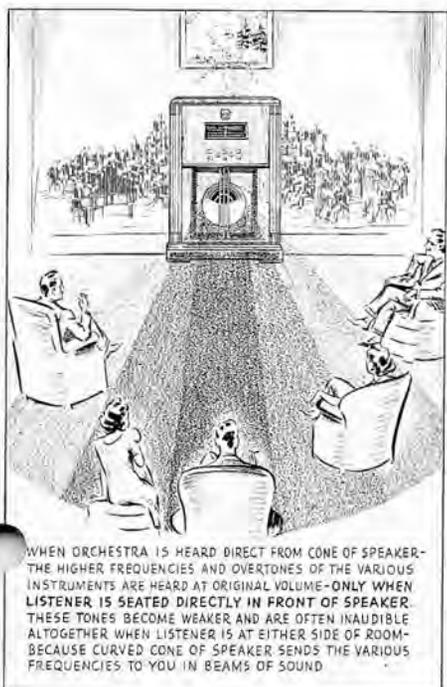
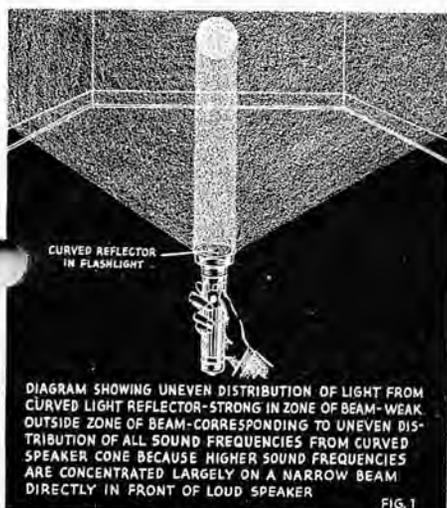
If you were to remove the sound board from the piano or the sound chamber from the violin and listen to the sounds of the strings of the violin without the sound chamber, or to the sound of the strings in the piano as the hammer hits them with the piano sound board removed, you would immediately notice a tremendous difference in carrying power. The sound chamber of the violin and the sound board of the piano amplify the tones of these instruments, giving them "carrying" power, spreading them evenly all over the concert hall or room.

When a loudspeaker is equipped with a new Scott-Tauscher Sound Board Unit

it forms a complete sound chamber. The tones from the speaker are collected and transferred to the main board where they are amplified and diffused so that all tones and overtones are heard with equal clearness in all parts of the room.

Greater Efficiency Secured in New Model

In the new improved sound board unit greater efficiency has been secured by using a special cone mounted on the back of the main sounding board. In the first model two small auxiliary sound boards were used to collect the higher frequencies from the center of the speaker and transfer them to the main sounding board. However, experiments in our laboratory showed by using a small cone in place of these two small auxiliary sound boards, still greater transfer of the higher frequencies to the main sound board could be secured.



Why More Natural Reproduction Is Secured

Like many great inventions the principle behind the Scott-Tauscher Sound Board Unit is very simple. The reason the reproduction of all musical instruments and voice sound so much more natural with the new sound board unit as compared with the reproduction that comes directly from the cone of the speaker, is because the higher frequencies or vibrations, instead of reaching your ears in concentrated beams of sound directly from the funnel-shaped cone on the loudspeaker, are evenly distributed over the whole surface of the sound board unit installed in front of the speaker, reaching your ears just as naturally as they would were the artist playing or singing directly before you.

The graphic diagram shown below makes it quite clear why the distribution of all musical tones and overtones is so much more perfect when the Scott-Tauscher Sound Board Unit is installed in front of the speaker. A beam from a flashlight with its curved reflector is, as you know, largely concentrated in a small spot directly ahead with only a small amount of light outside the main beam. This is what happens to a large extent with the higher overtones in music reproduction. They come from the center of the speaker and are concentrated, largely, directly in front of it. This explains why you hear these higher tones so much better when you are seated directly in front of the radio, and why they gradually become weaker if you move over to the side of the room.

But suppose you take the curved reflector out of your flashlight and flatten it out, then place the bulb in the center. You would then find that instead of the light being concentrated in a small spot on the wall, it would be evenly distributed over the whole wall. This is exactly the same effect you secure with the higher overtones when the Scott-Tauscher Sound Board Unit is fitted in front of the speaker.

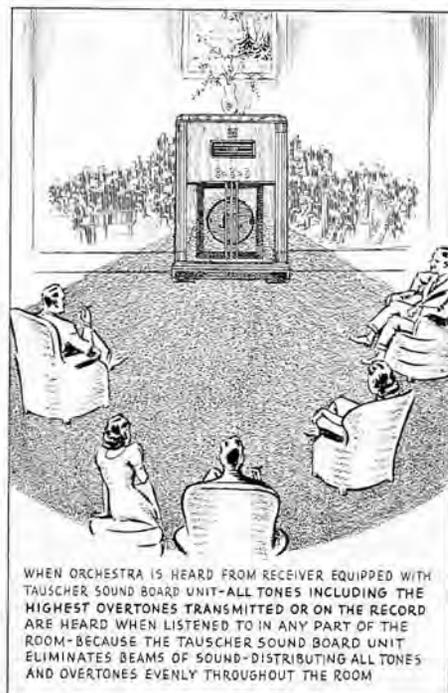
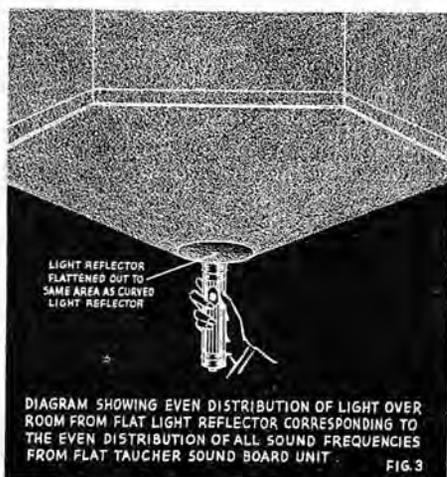
When the music of an orchestra or artist is broadcast, the musical sounds from the various instruments or the artist are collected by the microphone and fed into the transmitter at the broadcasting station. The transmitter then sends them out on the air to be picked up by your antenna. When you listen to the music of an orchestra or an individual artist in your home, it is necessary to reproduce these sounds through a radio speaker, but owing to the "V" shaped cone of the speaker, the distribution of these sounds will vary according to where you sit in the room.

When the Scott-Tauscher Sound Board Unit is placed in front of the speaker, all frequencies are radiated from the whole of the flat surface of the main

sounding board and spread out so that they are distributed to all parts of the room. The result is a purer and sweeter quality of tone that transforms radio receiver and record combinations into real musical instruments.

Scott-Tauscher Sound Board Units Now Available to All Music Lovers—for Installation On All Radios

Up to this time, Scott-Tauscher Sound Board Units have been available only to Scott owners, but so many requests have been received from music lovers who now own a radio or record combination other than a Scott that we are making it available to the general public. It is designed for three sizes of speakers, 10" at \$5.50, 12" at \$6.50 and 15" at \$7.50, and can be fitted by anyone in about ten minutes. Full instructions for fitting the sound board unit to your speaker are supplied with each unit.





***New* Scott PHANTOM DELUXE**

**Designed for the Reception
of Both Regular and Frequency Modulation Stations**

THE Scott Phantom De Luxe, incorporating 28 tubes (including tuning indicators and rectifiers) has been designed for those who want an instrument with the finest reproduction of radio broadcasts and recorded music, combined with an extremely high degree of Selectivity and Sensitivity to bring in distant shortwave stations in all parts of the world with good loudspeaker volume. Designed for the reception of the new FM (Frequency Modulation) stations as well as our present broadcast and shortwave stations. A few of the outstanding features of the Scott Phantom De Luxe follow:

Fidelity on FM reception and record reproduction 30-15,000 cycles with special Four Unit Speaker System • Fidelity on

AM broadcasts 30-8,500 cycles • Power output 25-40 watts • 28 latest type Octal Base Tubes (including Tuning Indicators and Rectifiers) • Wave Length Range 41-50 megacycles on FM band, 13-550 meters on four AM wave bands • One Stage RF Amplifier on all bands • Separate Variable Selectivity Control • Separate Continuously Variable High Fidelity and Bass Controls • Variable Selectivity from 3.5 KC to 12.5 KC • Three Stage IF Amplifier • Five Noise Reducing Systems • Specially designed 12-inch High Fidelity Speaker • Special Four Unit Speaker System to increase fidelity range to 15,000 cycles \$29.50 extra • Improved Scott Super Shield Antenna Coupling System • Four

Stage Audio Amplifier • Stabilized Oscillator with Voltage Regulation • Continuously Variable Sensitivity from .6 to 10 microvolts • European Slide Rule type Tuning Dial with Micrometer Vernier Scale • Two Tuning Speeds • Two Automatic Volume Control Systems • Inverse Feed Back System • New Automatic Noise Limiter • Electron Ray Tuning on all bands • Calibration Shift guaranteed to be less than two-tenths of 1% • Tuner and Amplifier mounted on two separate 14-gauge steel chassis • Silent Tuning between stations • Complete Shielding • Both chassis finished in gleaming chromium • Impregnated • Guaranteed for five years • 30-day home trial.



***New* Scott PHILHARMONIC**

**Designed for the Reception
of Both Regular and Frequency Modulation Stations**

THE Scott Philharmonic, a de luxe instrument incorporating 33 tubes, (including tuning indicators and rectifiers) is, we believe, the finest radio receiving instrument in the world today. It covers efficiently all wave lengths from 13 up to as high as 2,000 meters, and the new FM (Frequency Modulation) stations. Into its design has gone the experience of nearly two decades of research and experiment. Each individual circuit has been developed to the highest point known to engineering science, and we believe it stands alone and unchallenged as the finest radio receiving equipment that has ever been designed for home entertainment. It represents the ultimate in radio luxury. A few of the outstanding features of the Scott Philharmonic follow:

Fidelity on FM broadcasts and record reproduction 30-15,000 cycles with special four unit speaker system • Fidelity on AM broadcasts 30-9,000 cycles • Power Output 40-60 watts • 33 latest type Octal Base Tubes (including Tuning Indicators and Rectifiers) • Wave Length Range 41-50 megacycles on FM band, 13-2,000 meters on five AM wave bands • Two Stage RF Amplifier on all bands • Separate Continuously Variable High Fidelity and Bass Controls • Continuously Variable Selectivity from 2 KC to 16 KC • Four Stage IF Amplifier • Six Noise Reducing Systems • Specially designed 15" High Fidelity Speaker • Special Four Unit Speaker System to Increase Fidelity Range to 15,000 Cycles \$29.50 Extra • Improved Scott Super

Shield Antenna Coupling System • Four Stage Audio Amplifier • Stabilized Oscillator with Voltage Regulation • Continuously Variable Sensitivity from .5 microvolt to 20 microvolts • Laboratory-Type Tuning Dial with Micrometer Vernier Scale • Two Tuning Speeds • Two Automatic Volume Control Systems • Inverse Feed Back System • New Automatic Noise Limiter • Electron Ray Tuning on all bands • Calibration Shift guaranteed to be less than two-tenths of 1% • Tuner and Amplifier mounted on two separate 14 gauge steel chassis • Silent Tuning between stations • Complete Shielding • Both chassis finished in gleaming chromium • Impregnated for extreme climatic conditions • Guaranteed for five years • 30-day home trial.

The Scott News

Published Frequently at Chicago by
E. H. SCOTT RADIO LABORATORIES
Chicago

E. H. SCOTT, Editor

Building of Scott Receivers to Be Limited by National Defense Needs

Last week we received our first order for national defense from the United States Signal Corps, and expect from now on more and more of our facilities will be required for the building of special receiving equipment for the Army. This simply means we will only be able to build a very limited number of receivers for private use, for defense needs come first.

OPM Estimates Radio and Electronic Equipment Required for National Defense Between \$300,000,000 and \$400,000,000 During Next Two Years

Here's what the OPM in Washington has to say about the amount of radio and electronic equipment that will be required for national defense: "Estimates made in Washington indicate that defense orders for equipment in the electronics field now total about \$140,000,000, of which \$46,000,000 is for radio equipment. Since one-third of the appropriated money has now been converted into orders, there is reason to believe that another \$300,000,000 to \$400,000,000 will be placed in the industry for delivery in the next two years."

This means that even if an ample stock of the materials required to build radio receivers were available, it seems certain that the huge amount of equipment required by the Army will soon make it necessary for every radio manufacturer to devote a large part of his plant to defense orders.

Washington Restricts Aluminum Used in Radio Receivers

Some indication of the difficulty that

receiver manufacturers are experiencing in securing supplies of the essential materials will be seen by recent developments reported in the May 1941 issue of "Radio Today": "Radio and many other industries are facing sharp curtailment of aluminum . . . nickel, zinc, and copper in varying degrees. Involved are problems of reduced radio production . . . Putting radio in Class B7, OPM priority orders on April 18 restricted radio and all communications apparatus to a limitation of 30 per cent (on average 1940 deliveries) of aluminum for May requirements, providing aluminum is available for civilian purposes beyond mounting defense requirements. Immediately affected is production of radio condensers, tubes, speakers, and other components."

For many months we have been at work in our Research Laboratory on the Scott Laureate, a receiver designed principally for the purpose of bringing to you, with the highest degree of tonal perfection, the world's finest music, either on programs over the air or on records. This new receiver, with the highly developed Scott Phantom and Philharmonic, would have made it possible for us to build you an instrument that incorporated just exactly what you required and no more.

A Difficult Decision

But we are compelled today, owing to the shortage of aluminum, nickel, zinc, and copper to make a very important decision: Should we use the reduced amount of material we will be able to secure in future months to build a few of each model or should we concentrate all of this in the production of one model until such time as materials are again available for civilian use in sufficient quantities to build all three models?

Why Scott Phantom and Philharmonic Should Be Ordered Now

Fortunately, the decision we have to make has not been as hard as it might have been. After reserving an adequate supply of parts to insure service on all previous Scott models for the next ten years, we still have in stock enough material to build approximately 200 Phantom receivers, and about 80 Phil-

harmonics. *But when these are built no more orders for these instruments can be taken until an adequate supply of aluminum, zinc, nickel, and copper is available.* When this will be impossible for anyone to say. However, one thing is certain, and that is that anyone who secures one of these instruments while they are still available is an extremely lucky individual for it may be a long time before the opportunity comes again.

Production Facilities to Be Devoted to Building Scott Laureate Exclusively

Once the material and parts on hand for the Phantom and Philharmonic have been built into receivers all of our facilities will be devoted to the building of the new Scott Laureate, one of the finest receivers that has ever come out of our Laboratory. But even the number of these that can be built will be limited by two factors: (1) the amount of material we can secure and (2) national defense orders which must have preference.

At this time we have the materials and parts in our Laboratory to build approximately 100 Scott Laureates and have scheduled material orders during the next 90 days for another 200 receivers. Whether all of this material will be delivered to us on schedule we do not know. It is possible some of it will be delivered over a longer period in which case orders taken after material on hand is built up will require a correspondingly longer time to build and deliver.

We sincerely hope that it will not be necessary to direct all of our facilities to national defense but owing to our special facilities and highly skilled technicians this is entirely possible.

This editorial is written to acquaint you with conditions over which you and I have no control. If you are considering the purchase of a Scott your order should be placed now while it is still possible to make normal delivery.



E. H. SCOTT RADIO LABORATORIES, INC.

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