SCOTT NEWS

THE STRADIVARIUS OF RADIO RECEIVERS

NEWS OF LATEST DEVELOPMENTS IN THE SCOTT RESEARCH LABORATORIES

Vol. 12 NEW YORK DETROIT CHICAGO LOS ANGELES BUFFALO No. 4

HOW TO CHOOSE YOUR RADIO RECEIVER

A Simple "Yard Stick" with Which to Judge Any Radio or Record Player Combination

HUNDREDS of letters come to us asking how a SCOTT compares with some other radio. This puts us in a rather difficult position, for naturally we believe there is only one answer to that question. Today, with each radio manufacturer claiming his particular set to be the finest that can be bought, the ordinary man finds it difficult to know just what to believe. The very best way to settle the question is to make an actual comparative test. If you do this, comparing the precision built SCOTT with any other receivers, we know you will learn some surprising facts.

E. H. Scott, Designer and Builder of Advanced Design Radio Receivers Since 1924

The first thing you will notice is a very great difference in the quality of parts, workmanship, and appearance. We believe that when you see a SCOTT beside any other receiver its obviously superior quality will immediately convince you that you need go no farther to make your decision.

Then when you switch on both receivers and compare them for Tone, Selectivity, and Sensitivity, you will find just as much difference in their performance as you have already found in their appearance. But as it is not always convenient to make an actual comparison test, most decisions must be reached by reading the printed description of a receiver.

Factors Which Determine Receiver Performance

Today the purchaser of a radio receiver or radio-record player combination can make his choice from several hundred models offered by various manufacturers, and the choice is often not an easy one because the average buyer is not a radio engineer. Also, few manufacturers give many technical details in their literature other than the number of tubes used and the wavelength range covered. They simply describe its performance in very general terms, and show a picture of the console.

In most cases you choose your instrument largely by the design of the console, for it is difficult to tell by listening for a few minutes in a radio store just how the receiver will perform in your home.

If you are interested in getting the most for your money and in choosing just exactly the type of radio that will give you the kind of performance you are looking for, the information which follows will help you.

While there are many factors that determine the kind of performance a radio will give, one of the most important is the number of tubes used. In reading some of the literature describing ten and twelve tube receivers, one would think that more tubes are used in some receivers simply to make them larger and more costly. Nothing could be further from the facts. In a well designed receiver, as you will clearly see in the analysis which follows, the more tubes used, the better will be the performance.

What Tubes Are Used For in Radio Receiver

The other day I was asked: "Just what does a radio tube do in a receiver? Some people call them tubes, while in Europe they call them valves. Do they act like valves?"

It is not easy to explain simply the functions that tubes perform in a radio receiver, for some function as amplifiers of the signal, while others are used to reduce distortion, etc. The amount of signal picked up on your antenna is so small that one would think it impossible to ever amplify it sufficiently to be heard all over a room.

Energy Collected By Antenna Equals Only One-Billionth of Fly Power

We know that a fly is not a very powerful insect, but did you know that the energy picked up *from over one billion* (not merely a million) *antennae would have to be collected before you would have enough power to equal the strength of just one little fly?* In other words, the energy or signal that is collected on a billion antennae equals only approximately one fly power.

So we start off in the receiver with the very minute signal picked up on the antenna. This is first fed thru the tubes in the RF amplifier. As it passes from one tube to another, its strength is built up or amplified many hundreds of times. However, there is a limit to the amount of amplification that can be secured in an RF amplifier, and when that limit is reached (if there is no IF or Intermediate Frequency Amplifier in the receiver) the signal is passed to the detector and thru to the Audio Frequency section of the receiver so that you can hear it in your loud speaker.

Why Modern Receivers Use Superheterodyne Circuit

Many years ago all receivers used only Radio Frequency Amplification, and because of their low sensitivity, distance reception was very poor. About 1917, during the World War, Major Armstrong invented the superheterodyne circuit. This circuit carries on where the TRF or tuned radio frequency circuit leaves off, and it is this circuit that has made possible world-wide reception from weak distant stations all over the world.

For this reason, practically all modern radios are superheterodyne receivers. The signal is amplified as far as possible in the RF stages; it then passes thru a tube we

call the converter where it is changed into a lower intermediate frequency, which makes it possible to build up the strength of the signal tremendously. If only one stage of IF is used, you will secure a certain amount of amplification, but as you pass the signal thru two, three, or four stages of IF it increases in strength.

How Signal Is Made Available To The Human Ear

But this signal, altho it has been amplified many millions of times, is still a radio frequency signal, that is, higher than 15,000 cycles per second, and such tones are inaudible to the human ear. To make this signal audible, we now pass it thru the detector which extracts the music, speech, or other program material from the high frequency wave and restores it to an audible form, and this reconstructed waveform is fed to the audio frequency amplifier which, as the name implies, brings the signal up to a level audible to the human ear. The loud speaker is the final link which transforms these audible frequencies into vibrations which reach your ear as music or voice.

Performance of Receiver Will Depend on Number of Tubes Used and Advanced Circuit Design

The above is a very simple explanation of the functions performed by tubes in a radio receiver, *but the performance of your receiver will depend on the efficiency and advanced design used in the various circuits of the receiver in which the tubes are used.* These advanced circuits and tubes can be compared to a refinery which treats the crude oil brought up from the ground, taking out the impurities and extracting the pure oil or gasoline from it. In a very simple refining process you will not extract as much oil or gasoline from the crude oil, and the amount extracted will not be as pure as that obtained by a highly developed modern refining process.

In a radio receiver the signal passes thru various circuits where it is "refined" in a similar way, *but we must be careful that we do not add distortion or noise to the signal as amplified thru the various tubes.*

What Is Meant By "Signal-to-Noise Ratio"

You will notice the phrase "Signal-To-Noise Ratio" in the description of tube functions in the RF and IF sections. If the circuits used are highly developed, they will keep the strength of the signal up to a high level, while tube and circuit noises are reduced to a low level. If they are not so highly developed or if enough RF and IF stages are not used, the internal noise will be high in comparison to the signal. As a result, reception will not be very satisfactory, especially that from distant stations.

What Is Meant By "Power Handling Capacity" and "Harmonic Distortion"

When we come to the audio frequency section, you will notice that we refer to "power handling capacity," and "harmonic distortion." The clearness and distinctiveness with which a radio reproduces either broadcast or recorded music depends on the number of tubes used in the audio amplifier, and this performance feature is referred to as "power handling capacity." If only one or two tubes are used, distortion will be present at low as well as high volume. In addition, unless special circuits are used, "harmonic distortion" will occur, which makes reproduction sound raspy. Such distortion can be reduced with efficiently designed circuits, to the point where it is inaudible to the human ear.

As you study the following analysis you will realize that the greater number of tubes used in a radio receiver, the finer will be its performance provided, of course, that these tubes are used in efficiently designed circuits.

Large Number of Tubes in Receiver Does Not Necessarily Mean It Is Highly Developed Instrument

Simply because a receiver has a large number of tubes, however, is no guarantee that it is a particularly efficient, highly perfected, and developed instrument. There are many advanced circuits used in the better class receivers to provide much finer performance than is possible in receivers using the same number of tubes but which do not use these more advanced circuits. You will find some of these features described in the booklets giving technical details of Scott receivers.

Dual and Triple-Purpose Tubes Incorporated Where They Can Be Used to Advantage

Tube manufacturers have now produced a number of special tubes which take the place of two, and in some cases, three of the regular type tubes. *Dual and triple-purpose tubes are incorporated in Scott receivers only when they do not cause a loss of efficiency.*

Scott Receivers Designed For Those Who Want the Finest Radio and Record Reproduction

Scott receivers are designed for those who want the finest radio receiving and reproducing equipment money can buy. We are so sure that our instruments are the finest in the world *that we invite you to test their performance in an actual side by side test against any other radio receiver or record playing combination.* You can take 30 days to make this test if you like. This gives you ample time to compare the tone of a Scott with that of any other receiver, either on broadcasts or records. It enables you to compare the reception from distant stations and convince yourself that with a Scott you can listen to foreign broadcasts with as much volume and as clearly as your local station. Of course, we don't say you can do this every day in the week, but you will be surprised how many days you can enjoy this kind of reception. In this test *you* are the sole judge, and if after making this test you believe that the Scott is not better, then all you have to do is say so, and your money will be promptly refunded.

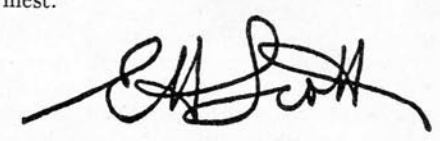
Simple Charts Make It Easy To Judge Radio Receiver or Record Playing Combination

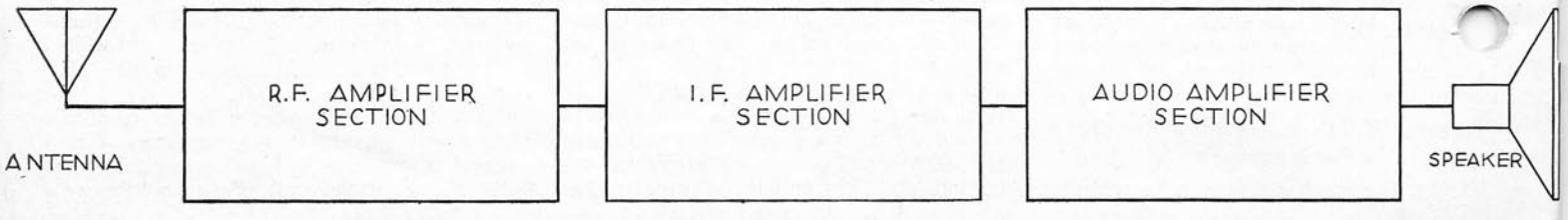
For those who do not have sufficient technical knowledge to judge the efficiency of a radio receiver or record player combination, we are listing the functions which the different tubes perform in various sections of a radio. To make it as simple as possible, we have divided the receiver into three general sections: (1) the R.F. or Radio Frequency section where the signal is received; (2) the IF or Intermediate Frequency Amplifier section, where the signal is built up to greater strength; and (3) the AF, or Audio Frequency section, which amplifies the signal to audible or loud speaker volume.

You will notice that we give the technical description of the functions performed by the various tubes in each circuit, but this will undoubtedly mean very little to the average man who knows nothing about the technical details of a radio receiver. *However, the non-technical description which follows can easily be understood by anyone. From this you will be able to clearly understand what is accomplished as each additional tube is added to the circuit.*

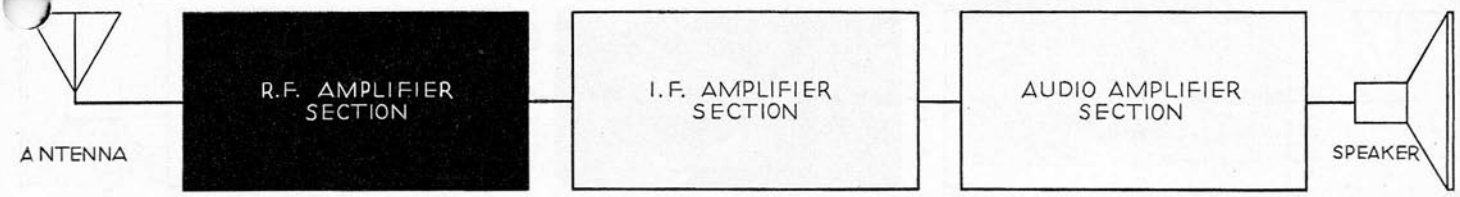
Each section begins with the minimum number of tubes which can be used in that section of the receiver, and is followed by the functions and results which may be obtained with the use of additional tubes.

This analysis will, I believe, for the first time, take the non-technical radio user "behind the scenes," and show him just what he is getting for his money, and provides a "yardstick" with which to judge any radio receiver. I further believe it will show clearly why a Scott, with its greater number of tubes used in the most efficient circuits known to advanced radio engineering, is today generally recognized as the "World's Finest."

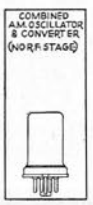




THE R. F. AMPLIFIER SECTION

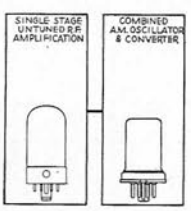


This is the first section of any superheterodyne receiver. Its purpose is to provide sufficient selectivity so that no interference will be produced by stations on adjoining channels, and sufficient RF amplification to allow the reception of weak signals from distant stations with a minimum of receiver noise.



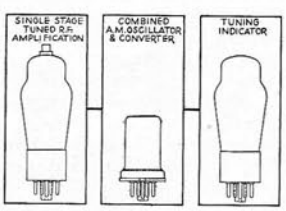
1. Combined Converter and Oscillator (No RF Stage)

Here is the simplest form of RF circuit and is generally used in receivers with a built-in antenna. The Signal-To-Noise Ratio is very low, and as a result tube hiss and noise will be quite high on all except powerful nearby stations. The Selectivity will be poor, making it very difficult to receive even local stations without interference from those on adjacent channels. Very unsatisfactory for use with an outdoor antenna because the stronger signal that is obtained by using an outdoor antenna will cause distortion by overloading the tube. Uses one tube.



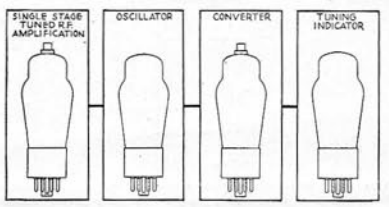
2. Combined Converter and Oscillator (With Untuned RF Stage)

This combination with an untuned RF stage has a slightly better Signal-To-Noise Ratio which means quieter reception with less tube hiss and noise when used with a built-in antenna. However, if used with an outdoor antenna, the receiver overloads easily, resulting in whistles and distortion on most programs. There will be no reduction in interference from stations on adjacent wavelengths and you will still hear other stations in the background of most programs. Distance reception will be very poor. Uses two tubes.



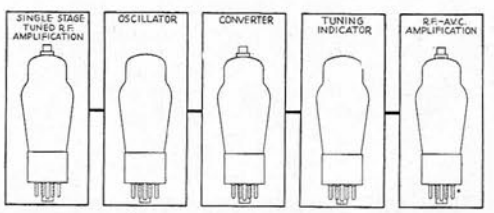
3. Tuned RF Stage With Combined Converter-Oscillator and Tuning Indicator

This combination with a tuned RF stage, instead of the untuned stage, gives much quieter reception because it considerably reduces interference from stations on undesired wavelengths. At the same time, a receiver with a tuned RF stage provides fair reception from distant stations *if it has two or more stages of IF amplification.* (See I.F. Section.) The tuning indicator enables stations to be tuned in exactly, securing better tone. Uses three tubes.



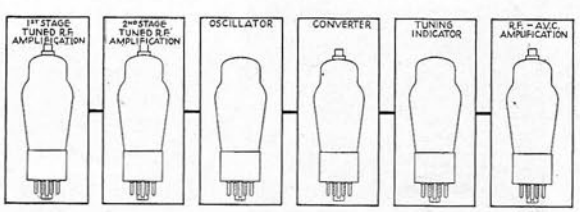
4. One Tuned RF Stage With Separate Tubes For Converter, Oscillator and Tuning Indicator

This combination will provide a quiet signal from all stations, and the tuned RF stage will greatly reduce interference or "background" noise from stations on undesired wavelengths. By using separate tubes for converter and oscillator, dial calibration on the AM shortwave bands will be kept more accurate and the Sensitivity of the receiver will be much more stable. Uses four tubes.



5. One Tuned RF Stage With Separate Converter, Oscillator With Amplified RF AVC and Tuning Indicator Tubes

This combination with amplified RF AVC provides a very good signal, giving quieter and clearer reception from all stations, because full sensitivity is available for weak signals and overloading is prevented on strong signals. Uses five tubes.



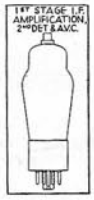
6. Two Tuned RF Stages With Separate Converter and Oscillator With Amplified RF AVC and Tuning Indicator

This combination is the most efficient and highly developed Antenna and RF section it is possible to incorporate in a radio receiver for entertainment purposes. It not only provides extremely quiet reception from all stations (when used with two or more IF stages) with a minimum of interference from stations on adjacent wavelengths, but also has the important advantage of providing very good AVC action when you are listening to a very weak station on a wavelength adjacent to a strong local station. Uses six tubes.

THE I. F. AMPLIFIER SECTION

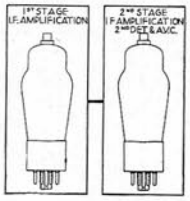
The I.F. or Intermediate Frequency Amplifier is the second section of a superheterodyne receiver. Its purpose is to provide a useable degree of sensitivity so that weak distant stations can be tuned in with good volume, and sufficient selectivity to be received without interference from other stations.

The I.F. AVC should act on the tubes in the I.F. Amplifier so that a constant volume will be maintained over a wide range of signal levels. The detector following the I.F. amplifier should reconstruct the transmitted audio signal faithfully and without distortion.



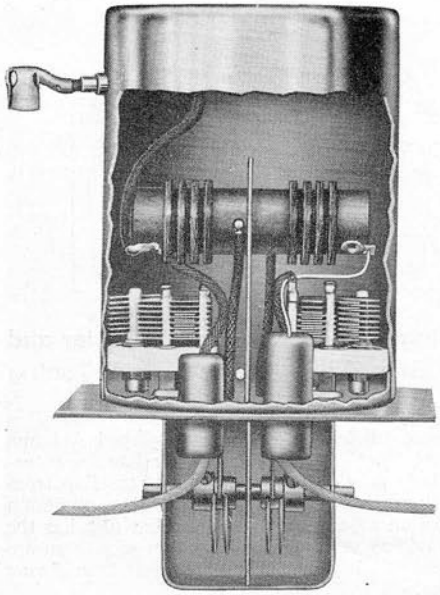
7. One Stage of IF Amplification, Second Detector and AVC System

This is the simplest form of IF amplifier that can be incorporated in a superheterodyne receiver. Station separation is very poor, especially if no RF stage or only one RF stage is used. The AVC (a circuit which keeps signals from fading out one second, then blasting in the next) is also poor, with the result that overloading and distortion occurs on strong signals. Uses one tube.

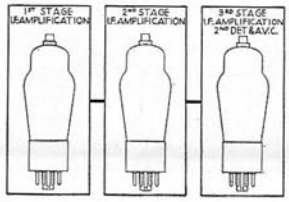


8. Two Stages IF Amplification With Second Detector and AVC System

This combination with two stages of IF amplification provides better Selectivity (ability to separate interfering stations) than a receiver using only one IF stage, and by increasing the sensitivity will give greater distant-getting ability and better AVC action than a receiver with only one IF stage. Uses two tubes.

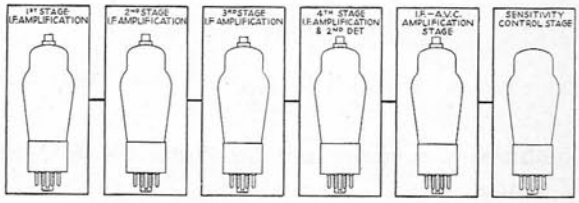


Sectional view of one of the four stage IF transformers used in the Scott FM-AM Philharmonic, showing the four Pi Litzendrath coils, air tuning condensers, and part of the Selectivity Control.



9. Three Stages of IF Amplification With Second Detector and AVC System

This combination with three stages of IF amplification gives excellent Selectivity between stations on adjoining wavelengths, and makes it possible to *efficiently* incorporate variable Selectivity in the receiver. This control makes it possible for the user to "broaden out" the receiver for high fidelity reproduction from local stations, or "sharpen" it to provide good reception from distant stations. The high sensitivity made possible by the three stage IF amplifier brings in weak distant stations, and a[lso] makes it possible to incorporate an excellent AVC system in the receiv[er]. Uses three tubes.

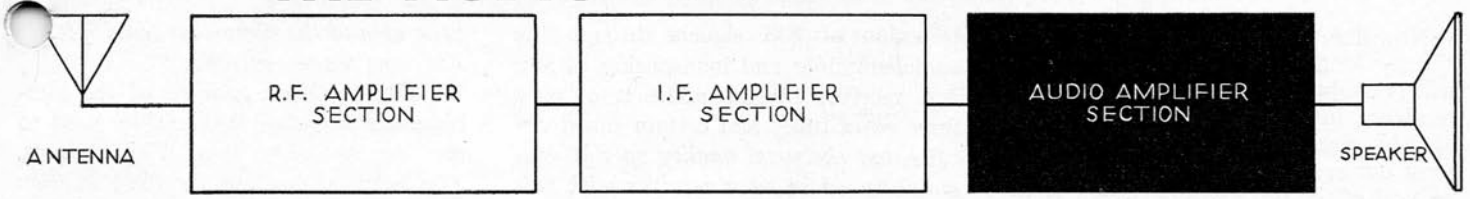


10. Four Stages of IF Amplification, Second Detector, With Amplified IF AVC System and Sensitivity Control

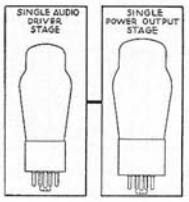
This combination is the most efficient and advanced IF amplifier section which can be incorporated in a radio receiver. The wide range of Selectivity available makes it possible to secure any degree of station separation from extra sharp for DX reception to as broad as is necessary to secure the highest fidelity that the station you are receiving is capable of transmitting. The tube used for Amplified IF AVC system, working in conjunction with the Sensitivity control tube, provides a most perfect control of volume on distant stations, keeping the volume at a constant level, preventing the constant fading in and out of the signal. At the same time, the four stage IF amplifier, with its high, controlled gain makes it possible to bring in weak distant stations with loudspeaker volume that would hardly be heard on a receiver using one or two stages of IF, and provides the finest possible reception from foreign stations. Uses six tubes.

To prevent the usual loss in efficiency due to eddy current losses where small shield cans are used, each of the I.F. stages are mounted on shield cans 3½" in diameter. Both primary and secondary coils in each I.F. transformer are wound with Litzendrath wire in four sections, and tuned by air condensers mounted on Staetite insulators. An electro-static shield is provided between the primary and secondary of each transformer to eliminate capacity coupling between the circuit assuring pure magnetic coupling. Each I.F. stage is so thoroughly shielded, carefully filtered, and effectively by-passed, that every trace of inter-stage coupling and instability is eliminated, making it possible to utilize fully the high gain in the I.F. amplifying system. The very advanced design of the stage I.F. amplifier, with its perfect stability and high gain, provides a higher degree of Usable Sensitivity than has, we believe, up to this time ever been incorporated in a superheterodyne receiver.

THE AUDIO AMPLIFIER SECTION

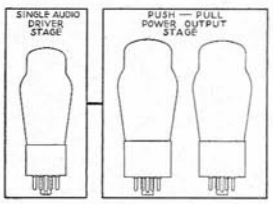


This is the third section of any superheterodyne receiver. Its purpose is to amplify the signal that has been detected and build it up to sufficient volume to be heard on the loudspeaker. To provide the most faithful, as well as the most pleasing reproduction, this section of the receiver should be equipped with controls for varying both the bass and treble response, and its design must be such that no distortion is introduced.



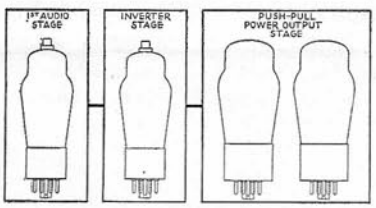
11. One Driver Stage Operated By Second Detector With Single Power Output Stage

This combination is the simplest audio amplifier that can be incorporated in a radio receiver providing loudspeaker reception. The undistorted volume that can be secured is very low, which means that overloading and blasting occurs if the volume control is advanced beyond low volume levels. Uses two tubes.



12. One Driver Stage Operated By Second Detector Pushpull Power Output Stage

This combination with a pushpull power output stage has a slightly higher level of undistorted volume, but not much more than can be secured with a single power output stage. Uses three tubes.

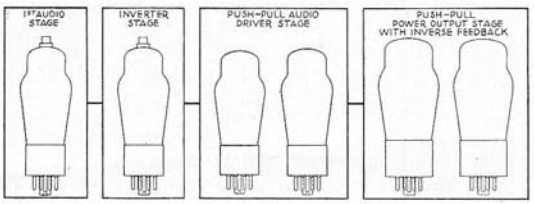


13. One Audio Stage With Inverter Stage Operated By Second Detector With Push-pull Output Stage

This combination, with a distortionless phase inverter stage provides much greater power handling capacity, and permits much cleaner reproduction at all degrees of volume especially from fine recordings which are recorded at low level, and therefore difficult to reproduce perfectly on any but a very good audio amplifier. Uses four tubes.

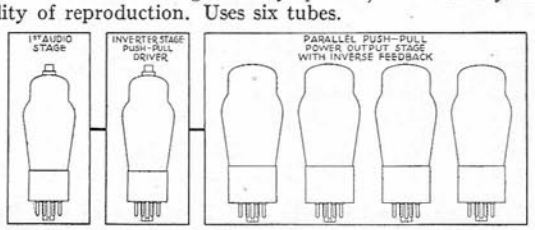
Separate Power Amplifier Used in Scott Receivers

If the power supply is an integral part of the tuning chassis, the finest bass response cannot be secured, as it is practically impossible to eliminate hum. Scott receivers are designed to provide the highest possible degree of tonal perfection, and for this reason the power supply is a separate unit. It costs more to make the power supply a separate unit, but we believe the finer bass response and performance characteristics obtainable from the receiver fully justify this additional cost.



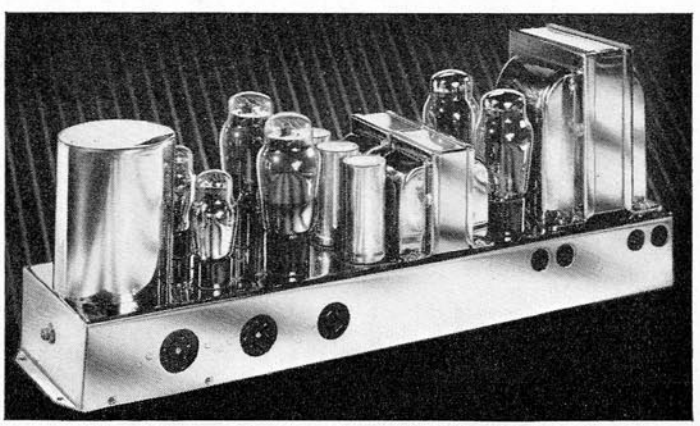
14. One Audio Stage With Inverter Stage Feeding Push-pull Driver Which in Turn Drives Pushpull Power Output Stage With Inverse Feedback

This combination has a very low degree of harmonic distortion over a wide volume range from the softest to the loudest passage. The minimum hum level makes it possible to incorporate a circuit that reproduces all bass passages with a degree of perfection never heard on less highly developed receivers. The increased power handling capacity gives much finer reproduction of low level records. Separate inverter and pushpull driver tubes are used to insure sufficient output to drive the two pushpull output tubes at maximum efficiency. Inverse Feed-Back is incorporated to smooth out the "peaks" and "dips" which occur in the response of even the best high fidelity speaker, tremendously improving the quality of reproduction. Uses six tubes.



15. One Audio Stage With Inverter Push-pull Driver Operated By Second Detector With Parallel Push-pull Output Stage With Inverse Feedback

This combination, with a parallel pushpull power output stage, provides the finest possible distortionless reproduction at all degrees of volume on either broadcast or recorded music. As four tubes are used in the output stage a sufficient margin for maximum power output is secured with a combined inverter pushpull driver stage. It is without question one of the most highly developed amplifier systems known to radio engineering. You have never really heard how fine broadcast music or records can be until you have heard it through an audio system using the above combination of tubes. Uses six tubes.

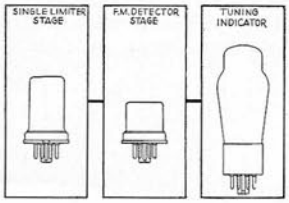


View Showing Separate Power Amplifier Used in the Scott FM-AM Phantom.

FM OR FREQUENCY MODULATION

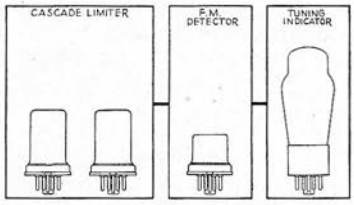
Now that the advantages of FM (Frequency Modulation) are recognized, we will undoubtedly see a large number of receivers introduced for the reception of FM programs as well as programs from our regular AM stations. As will be noticed in the analysis which is to follow, it is possible to provide for the reception of FM signals through the audio amplifier and loudspeaker of any AM receiver by the addition of only three extra tubes and certain tuned circuits, *but the tonal quality on FM programs tuned in on a receiver with this very simple combination will give you little idea of the marvelous tonal qua… FM now makes possible.*

Following is an analysis of the combinations of tubes that can be used to provide reception from FM stations. *The tubes shown are for the reception of FM signals only.*



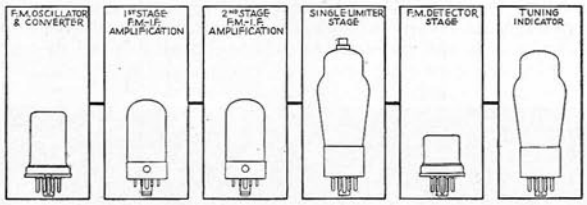
16. All Tubes Used in the AM Sections of the Receiver With One Limiter and One Detector Tube To Provide Reception of FM Signals and Tuning Indicator

This is the simplest possible combination of tubes that can be used for the reception of FM programs. It cannot operate at full Sensitivity or efficiency *because the same tubes perform both AM and FM functions.* Noise reduction will be incomplete because of insufficient limiter action. A receiver with this combination is usually designed simply for one purpose—to enable the manufacturer to say that the receiver will "bring in FM programs." Uses three tubes.



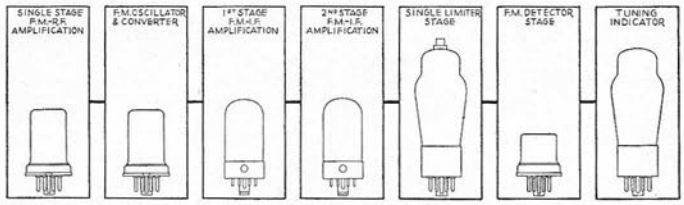
17. All Tubes Used in the AM Sections of the Receiver With Two Tubes Used as Cascade Noise Limiters and One as the Detector, and Tuning Indicator

This combination gives very little improvement in the tonal quality of the FM signal, but the two cascade limiters will provide improved noise suppression. Uses four tubes.



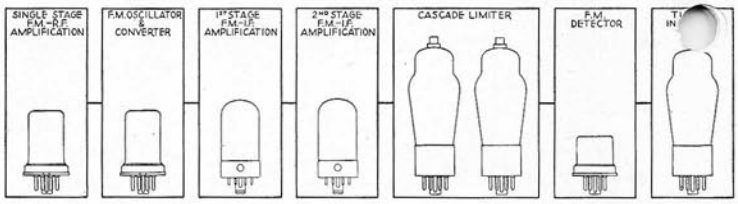
18. Separate Tubes For FM Channel Using a Combined Oscillator-Converter, Two Stage IF Amplifier, One Limiter, One Detector, and Tuning Indicator

This combination provides much better performance than the four tube combination above *owing to the fact that the tubes are used for the reception of Frequency Modulation programs only,* and therefore do not have their efficiency reduced by being required to function in the AM section of the receiver. However, overloading and station interference is possible due to lack of an RF stage for FM, and adequate noise suppression (which is one of the principal advantages of FM) will not be realized with the use of a single limiter unless a strong FM signal is available. A combined Oscillator-Converter allows full use of the weaker oscillator voltage available in the ultra high FM band, with temperature compensation to eliminate frequency drift. Uses six tubes.



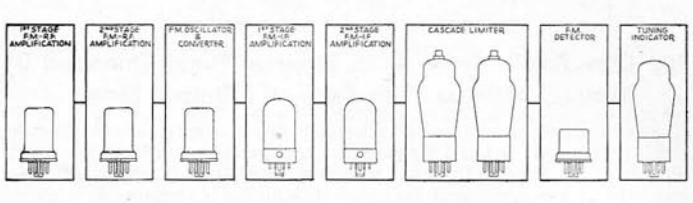
19. RF Stage—Combined Oscillator and Converter—Two Stage IF Amplifier—One Limiter—Detector, and Tuning Indicator

This combination with an RF stage gives excellent performance with very small possibility of interference from other FM stations or from overloading, but the inadequacy of the single limiter stage makes it impossible to secure noise-free reception from weak FM signals. Uses seven tubes.



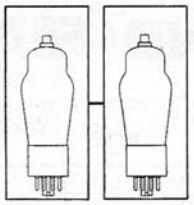
20. RF Stage—Combined Oscillator and Converter—Two Stage IF Amplifier—Two Cascade Limiters—Detector—Tuning Indicator—Voltage Regulation For Oscillator

This combination with its two cascade limiters gives excellent noise reduction of both weak and strong FM signals, and the accurate visual tuning indicator permits listener to tune in FM programs with a minimum amount of noise and distortion. The voltage regulator tube, incorporated in the AM section of a Scott, is also used in the FM section so that there will be no shifting of dial calibration and no noise due to voltage fluctuations. Uses eight tubes.



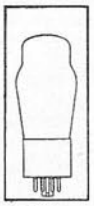
21. Two RF Stages—Combined Oscillator and Converter—Two Stage IF Amplifier—Two Cascade Limiters—Detector—Tuning Indicator—Voltage Regulation For Oscillator

This combination with its two RF stages, two cascade limiters, and voltage regulation on the oscillator, provides the quietest and finest possible FM reception available. It reduces the possibility of interference from strong local stations, thus providing finest reception from distant as well as local FM stations. Uses nine tubes.



22. Record "Scratch" or Surface Noise Suppressor

A special circuit is incorporated in Scott Phantom and Philharmonic models, which reduces scratch and surface noise heard on many records, without loss of fidelity at normal and high volumes. Uses two tubes.



23. Automatic Noise Limiter

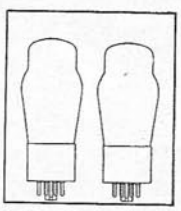
This is a special circuit used to eliminate ignition and similar types of electrical disturbances often encountered in tuning for weak stations on the foreign shortwave bands. Uses one tube.

24. Voltage Regulator Tube

In some locations, there is quite a wide variation in line voltage at various times during the day. If the line voltage varies and no means are used in the receiver to keep the plate voltage on the oscillator constant at all times, reception is often very unsatisfactory. In Scott Phantom and Philharmonic models a special voltage regulator tube maintains the plate voltage on the oscillator constant at all times, preventing shifts in dial calibration and noise due to line voltage changes. Uses one tube.

25. Single Power Rectifier Tube

A single power rectifier is capable of supplying power requirements for power amplifier up to 15 watts, but is too small for higher power amplifiers.



26. Dual Power Rectifier Tubes

Two power rectifiers are necessary to supply adequate reserve power for an audio amplifier capable of a maximum power output up to 60 watts, to insure distortionless reproduction of high volume peaks, and also to give maximum rectifier tube life.

27. Power Amplifier Characteristic Curve Shows Undistorted Output

Many manufacturers simply state that the receiver has an output of so many watts. This may mean *total* power output, or it may mean *undistorted* power output. There is a great difference between the two. *The only part of the power output really useable is the undistorted class A output.* In listening to many programs, "peaks" very often rise to as high as 25 or 30 watts for a fraction of a second, and if the receiver does not have sufficient Class A power output, then these "peaks" will be fuzzy and distorted. A high quality power amplifier will provide from 15 to 40 watts of undistorted Class A output. The power amplifier curve shows the exact output the amplifier is capable of giving.

28. Overall Fidelity Characteristic Curve Shows Tonal Quality

Many manufacturers claim high fidelity for their receivers. The only way actual fidelity of receiver can be shown, is by means of an overall fidelity characteristic curve. If it is claimed receiver is a high fidelity model, the overall fidelity characteristic curve should show it is practically flat from 50 up to at least 7,500 cycles. This is the *minimum* specification for a high fidelity receiver. Actually, to provide true high fidelity reception, a receiver should be capable of reproducing all frequencies from 50 up to 8,500 cycles on programs received from AM stations, and from 50 up to 15,000 cycles on the new FM stations.

29. High Frequency Speakers Available to Extend the High Fidelity Response

To fully reproduce every frequency from 50 to 15,000 cycles, which is the fidelity range transmitted by the new FM stations, it is necessary to use either one or two high frequency speakers, for no single speaker has yet been designed which will reproduce properly all frequencies from 50 up to 15,000 cycles. In Scott receivers, a special Four-Unit System can be supplied, consisting of a large low and medium frequency speaker, two smaller high frequency speakers, with a special dividing network to combine and mix the output of the three speakers and insure smooth reproduction over the whole range from 50 up to 15,000 cycles.

30. Supershield Antenna Coupling System

This is a special patented development of our Research Laboratories which is used exclusively in Scott receivers which enables good shortwave reception to be obtained in many locations where electrical interference now makes it impossible to secure good reception.

31. Variable Sensitivity

A special circuit used in Scott receivers which enables the Sensitivity to be varied to meet noise conditions in the location where the receiver is used. This provides *maximum* Sensitivity for the reception of weak distant stations, or *minimum* Sensitivity for the reception of local stations where a high degree of Sensitivity is not required. It also provides quiet tuning and freedom from noise when tuning between stations.

32. Variable Selectivity

Few receivers incorporate Variable Selectivity, because any feature that adds an appreciable amount to the cost is usually eliminated. However, if Variable Selectivity is not incorporated in a receiver, the Selectivity must be fixed, at time of construction, at one point. Obviously, this is a compromise between "sharp" Selectivity (to enable distant stations to be received) and "broad" Selectivity (to permit high fidelity reproduction). The result is that the receiver is usually set on the "sharp" side to provide reception free from interference from stations on adjacent channels. However, such a receiver cannot bring you all programs with the maximum fidelity.

33. Variable Bass Control

Today, the great majority of receivers either have no bass control at all or provide an *apparent* bass by reducing the higher frequencies or overtones by means of a single tone control. Actually, the bass response is exactly as it was, but the effect of "cutting the highs" seems to give more bass, because the "highs" are not being reproduced as they were before. In Scott receivers a separate bass control is provided *to increase and decrease the bass response only, without affecting the high frequencies.* This means listener has full control over the bass response without affecting the middle or the high fidelity range of the receiver.

34. Variable High Fidelity Treble Control

A treble fidelity control is provided to enable listener to obtain the most natural reproduction of the higher overtones either from records or from broadcast programs. This control enables you to set the treble response at the exact point which provides the most enjoyable listening quality.

35. What Is the Net Weight of the Speaker Used?

A light weight speaker will have a small field coil, while a heavy speaker uses a large field coil. A large field coil is necessary if the speaker is to handle all degrees of volume without "breaking up." Generally speaking, the larger the cone and the heavier the speaker, the finer the reproduction.

36. What Is the Combined Weight of the Chassis and the Power Amplifier?

The combined weight of the chassis and amplifier can usually be taken as a very reliable index of the quality built into a receiver. If the chassis and amplifier are comparatively light, then you can be assured that light weight parts are used in the receiver. This means a comparatively thin chassis base, small variable condensers, audio transformers, power transformers, etc. The weight in a radio receiver chassis and power amplifier means the same thing in quality as it does in any other product.

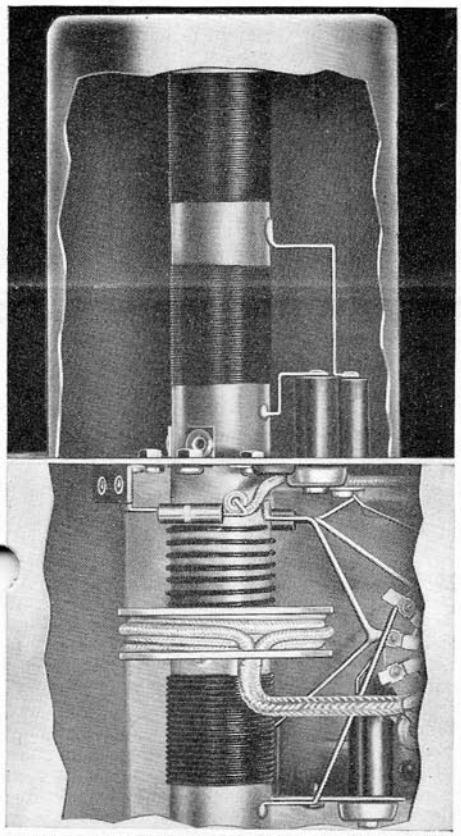
ANALYSIS OF RADIO TUBES AND FEATURES

The summary below is given to enable the prospective purchaser of a radio receiver to compare a Scott with any other radio receiver. The numbers shown at left can be checked with information given on pages three to seven.

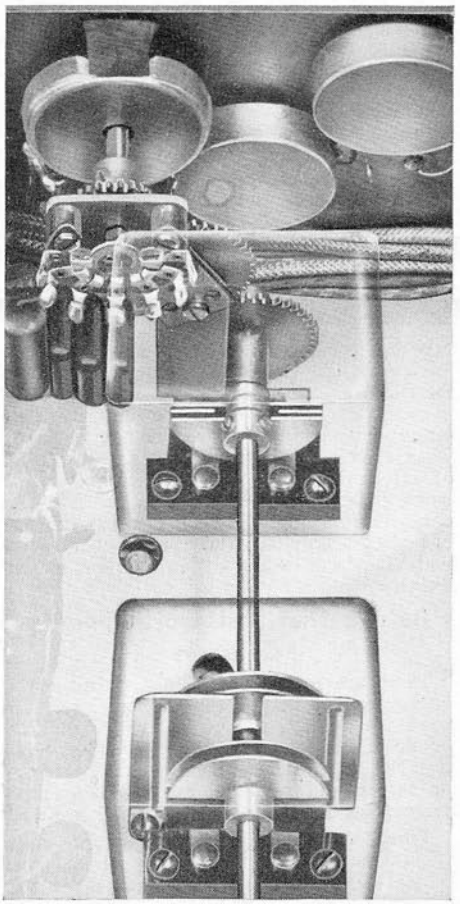
	Scott Masterpiece	Scott Phantom Deluxe	Scott FM-AM Phantom	Scott FM-AM Philharmonic	Any Other Radio
THE R.F. SECTION OF RECEIVER					
1. Combined converter and oscillator (no RF stage)					
2. Combined converter and oscillator (with untuned RF stage)					
3. Tuned RF stage with combined converter-oscillator and tuning indicator					
4. One tuned RF stage with separate tubes for converter, oscillator and tuning indicator	√				
5. One tuned RF stage with separate converter and oscillator with amplified RF AVC and tuning indicator tubes		√	√		
6. Two tuned RF stages with separate converter and oscillator with amplified RF AVC and tuning indicator				√	
THE I.F. SECTION OF RECEIVER					
7. One stage of IF amplification, second detector and AVC system					
8. Two stages IF amplification with second detector and AVC system					
9. Three stages of IF amplification with second detector and AVC system	√	√	√		
10. Four stages of IF amplification, second detector with amplified IF AVC system and sensitivity control				√	
THE AUDIO AMPLIFIER SECTION OF RECEIVER					
11. One driver stage operated by second detector with single power output stage					
12. One driver stage operated by second detector with pushpull power output stage					
13. One audio stage with inverter stage operated by second detector with pushpull output stage					
14. One audio stage with inverter stage feeding pushpull driver which in turn drives pushpull power output stage with inverse feedback	√	√	√		
15. One audio stage with inverter pushpull driver operated by second detector with parallel pushpull output stage with inverse feedback				√	
THE FM OR FREQUENCY MODULATION SECTION					
16. All tubes used in the AM sections of the receiver with one limiter, one detector tube to provide reception of FM signals and tuning indicator					
17. All tubes in the AM sections of the receiver with two tubes used as cascade noise limiters and one as the detector, and tuning indicator					
18. Separate tubes for FM channel using a combined oscillator-converter, two stage IF amplifier, one limiter, one detector and tuning indicator					
19. RF stage—combined oscillator and converter—two stage IF amplifier—one limiter-detector and tuning indicator					
20. RF stage—combined oscillator and converter—two stage IF amplifier—two cascade limiters—detector—tuning indicator—voltage regulation for oscillator			√		
21. Two RF stages—combined oscillator and converter—two stage IF amplifier—two cascade limiters—detector—tuning indicator—voltage regulation for oscillator				√	
OTHER FEATURES AND DATA ON RECEIVER					
22. Equipped with record scratch or surface noise suppressor system		Yes	Yes	Yes	
23. Equipped with automatic noise limiter for shortwave reception		Yes	Yes	Yes	
24. Is voltage regulator tube used to maintain oscillator voltage constant		Yes	Yes	Yes	
25. Single power rectifier	√				
26. Dual power rectifier		√	√	√	
27A. What is the total audio output of the power amplifier	15 Watts	40 Watts	40 Watts	60 Watts	
27B. How many watts are undistorted strict class A	10 Watts	25 Watts	25 Watts	40 Watts	
28A. What is overall fidelity on AM stations	50-7,500 Cycles	30-8,500 Cycles	30-8,500 Cycles	30-9,000 Cycles	
28B. What is overall fidelity on FM stations (with HI-FI speakers)			30-15,000 Cycles	30-15,000 Cycles	
28C. What fidelity is available on record reproduction with high frequency speakers	30-15,000 Cycles	30-15,000 Cycles	30-15,000 Cycles	30-15,000 Cycles	
29. Are high frequency speakers available to extend the high fidelity response to 15,000 cycles	Yes	Yes	Yes	Yes	
30. Equipped with Supershield antenna coupling system	Yes	Yes	Yes	Yes	
31A. Is variable sensitivity incorporated in receiver	Yes	Yes	Yes	Yes	
31B. What is degree of sensitivity in receiver	0.8 to 9 Microvolts	0.6 to 10 Microvolts	0.6 to 10 Microvolts	0.5 to 20 Microvolts	
31C. What is signal-to-noise ratio at 1 mv. input	2-1	3-1	3-1	4-1	
32A. Is variable selectivity incorporated in receiver	Yes	Yes	Yes	Yes	
32B. What is range of selectivity in receiver	5 kc. to 12.5 kc.	3.5 kc. to 12.5 kc.	3.5 kc. to 12.5 kc.	2 kc. to 16 kc.	
33. Is receiver equipped with variable bass control	Yes	Yes	Yes	Yes	
34. Is receiver equipped with variable high fidelity treble control	Yes	Yes	Yes	Yes	
35A. What is size and type of speaker used	12" High Fidelity	12" High Fidelity	12" High Fidelity	15" High Fidelity	
35B. What is the net weight of the speaker used	13 lbs.	25 lbs.	25 lbs.	28 lbs.	
36. What is the combined net weight of the chassis and the power amplifier (not including speaker, cabinet, or record changer)	48 lbs.	54 lbs.	69 lbs.	90 lbs.	
37. What is the wavelength range on AM bands	5-550 Meters	5-550 Meters	13-550 Meters	13-2,000 Meters	
38. What is the wavelength range on FM band			41-50 Megacycles	41-50 Megacycles	
39. Is separate power amplifier used. (See page 5)	Yes	Yes	Yes	Yes	
40. Is receiver completely shielded	Yes	Yes	Yes	Yes	
41. What is type and finish used to protect chassis and amplifier	Chromium	Chromium	Chromium	Chromium	
42. Is receiver built to production standard or precision standard	Precision	Precision	Precision	Precision	
43. How many tubes are used in receiver including tuning indicator, voltage regulator and rectifier tubes	14	20	28	33	
44. What is length of trial period in my own home	30 Days	30 Days	30 Days	30 Days	
45. How many months or years do you guarantee parts (except tubes) against defects or breakdown	Five Years	Five Years	Five Years	Five Years	

PRECISION BUILT PARTS USED IN SCOTT RECEIVERS

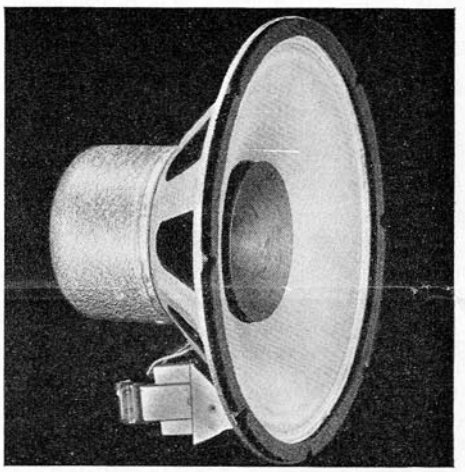
Some idea of the high quality parts used in Scott receivers can be secured by comparing those shown below with the components used in the regular type of production receiver, and will show why a Scott can be guaranteed for Five Years against defects instead of the usual 90 day guarantee given with other receivers.



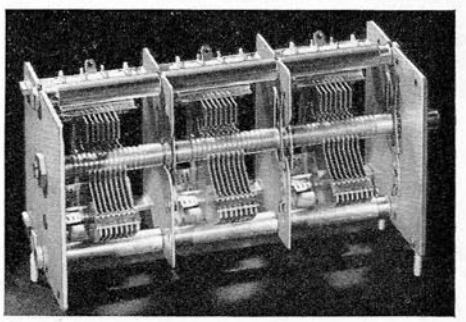
Sectional View Showing Antenna Stage with Scott Supershield Coupling System in New Scott FM-AM Phantom.



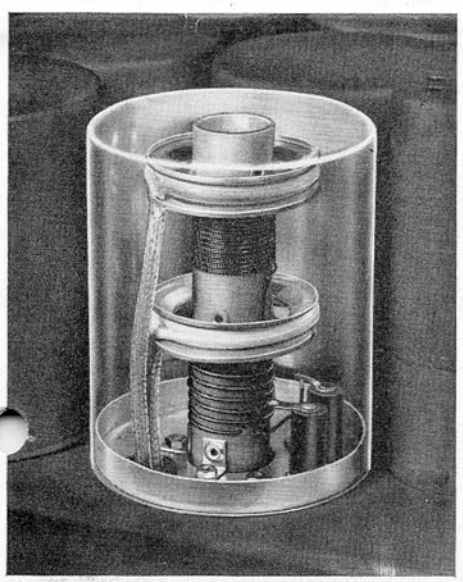
Section of Selectivity Control Mechanism Used in Scott FM-AM Philharmonic.



The 15" High Fidelity Speaker Used with Scott FM-AM Philharmonic.

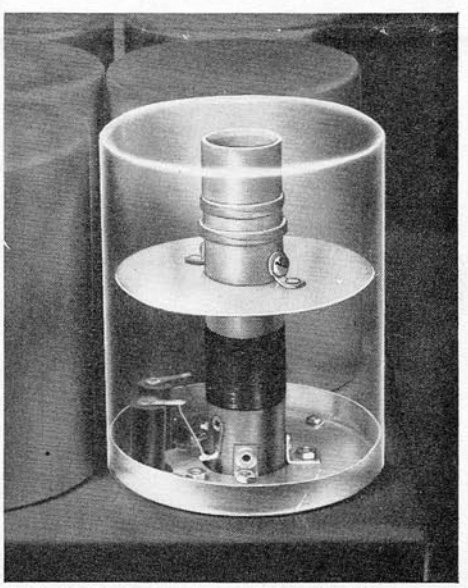


Precision Built Three Gang Condenser Used in Scott FM-AM Phantom.



Sectional View of the Scott Supershield Antenna Coupling Unit.

Special Four Unit Speaker System Available for Scott Phantom and Philharmonic Models.



Sectional View Showing Special Electron Coupled Oscillator Unit.

HOW TO CHOOSE YOUR CABINET

There's an old saying that "clothes do not make a man," and it is equally true that "the cabinet does not make a radio receiver." It is well to remember *that you buy a receiver primarily to bring you radio and recorded entertainment,* and that this is obtained from the equipment inside the cabinet.

However, here at the Scott laboratories we have always realized that our receivers must not only have fine tone and bring in distant stations clearly, but must also be housed in attractively designed cabinets. Undoubtedly, most people remember the awkward cabinets of eight or nine years ago. While thousands know that Scott receivers themselves have always been of very advanced design, *few know that we have also pioneered in cabinet design.*

Scott receivers are installed in thousands of fine homes, and many years ago we recognized that radio cabinets of the regular type simply did not "go" with most of the furniture in such houses. Excepting the modern design, which we introduced to harmonize with furniture of this type, radio consoles before 1937 were neither "fish nor fowl" but were just radio cabinets. You either had to take the cabinets that were available or do without a radio. Many thousands of radio buyers preferred to do this rather than spoil the looks of their living room.

Period Designs in Radio Cabinets

We began to think about this problem several years ago. Why shouldn't the design of the console harmonize with the other furniture in the room, no matter what it might be? So we started to work out our cabinets in authentic period designs, either Chippendale, Sheraton, or Adam, and as a result today you can install a radio receiver in your living room which is housed in a fine period piece of furniture.

Once again other manufacturers recognized this trend in period design, for now the old type of radio console is rapidly disappearing, and smart period designs are taking their place.

More Than Attractive Exterior Design Required

But more than attractive exterior design and fine finish is required to provide a perfect cabinet for a radio receiver. It must be acoustically correct if you are to have the finest tone, and be built of well seasoned woods by experienced furniture craftsmen if it is to give you years of satisfactory service.

Thickness of Wood Used Is Important

In the first place, the top, front, sides and bottom must be constructed of wood sufficiently thick so that no part of the cabinet will resonate at audible frequencies. If it is constructed of thin panel stock, (as are most of the cheaper grade cabinets) you will find that at certain degrees of volume there is something in the tone that is not just quite right; in other words, it sounds like a radio, perhaps with a noticeable "boom." Therefore, one of the first things you should check in choosing your radio cabinet is the thickness of the top, sides, front and bottom. These should be from ¾" to 1" thick. You will be surprised to discover that many cabinets of very pleasing exterior design when examined closely are constructed with 3 ply ⅜" panel stock.

Be Sure Cabinet Is Not a Mere Shell

If you are paying a fair price for the receiver, and like the design of the cabinet from the front, *be sure to examine it from the back to see that it is not a mere shell.* It is often found that many imposing looking cabinets, when examined from the back, simply consist of a top, front and two sides with a bar of wood nailed across the bottom to hold the two sides together. In other words, instead of being a solidly constructed piece of furniture with top, front, sides and bottom, it is merely a shell of thin ⅜" panel stock.

Details That Distinguish Quality Cabinets

There are many details that distinguish a quality cabinet from the cheaper type. In good consoles the various parts are tennoned or dovetailed so that they are solidly held together. In a cabinet where there are moldings or corners of any kind, examine the miters to see that they are exact and well matched.

When it comes to the wood out of which the cabinet is constructed you will find that the body of all better grade cabinets is made of five or seven plywood, for posts and legs solid wood is used only.

You may wonder why solid wood is not used throughout instead of plywood. The first reason plywood is used today is that it is actually stronger and better than solid wood. Solid wood, unless seasoned for many years, is liable to warp very easily, while plywood is not so apt to do this. Second, the use of plywood makes it possible to use a better selection of figures and grains in the wood.

In solid wood the grain goes only one way, so that if it were used throughout, the various panels could not be matched and your cabinet would be rather plain. The skilled veneer cutter examines the log from which the veneers are cut and knows exactly how to slice it to bring out the beauty of the grain in the wood. It is also possible with the use of veeners to provide a greater variety of beautiful grains and figures such as burl, burled figure, swirl or a figured swirl, crotch and butt. With this selection of grains to work with, a cabinet may be developed that is a very beautiful piece of furniture.

In the cheaper cabinet exposed parts show the core of the plywood used, whereas in the better quality furniture, exposed parts are either solid Walnut or Mahogany. In the cheaper cabinet the core of the plywood is either poplar or chestnut, rather cheap woods, while in the better cabinet either solid Mahogany or Walnut strips are used for the core. This considerably reduces the probability of warping, and is especially necessary in the doors or tops of cabinet.

When carving is used in the better cabinet you will find that it is either solid Walnut or solid Mahogany, which has first been machine-carved, then carefully finished by hand by an expert carver. In the cheaper consoles, if a carving is used, it is either simply a machine carved piece or a plaster cast of molded wood fibre.

No matter what price you pay for a Scott cabinet, it will be a piece of furniture you will be proud to have in your living room, for they are made by craftsmen who have spent their lives in building nothing but fine furniture.

Which to Select—Walnut or Mahogany?

A great many prospective purchasers are confused when it comes to the selection of wood in the cabinet. Shall it be walnut or mahogany? It is a common but mistaken belief that if a room is furnished in walnut, it is not proper to select a mahogany radio console. Nothing is further from the truth, as good taste in any art requires contrast and balance. In the world's most luxurious homes you will always find a nicely balanced mixture of both walnut and mahogany pieces, as each wood has its own good points in any fine decorative scheme. No matter whether your drawing room contains a preponderance of walnut or mahogany pieces, your choice of a radio console is a matter of individual preference, and will be entirely correct.

Scott Console Brochure

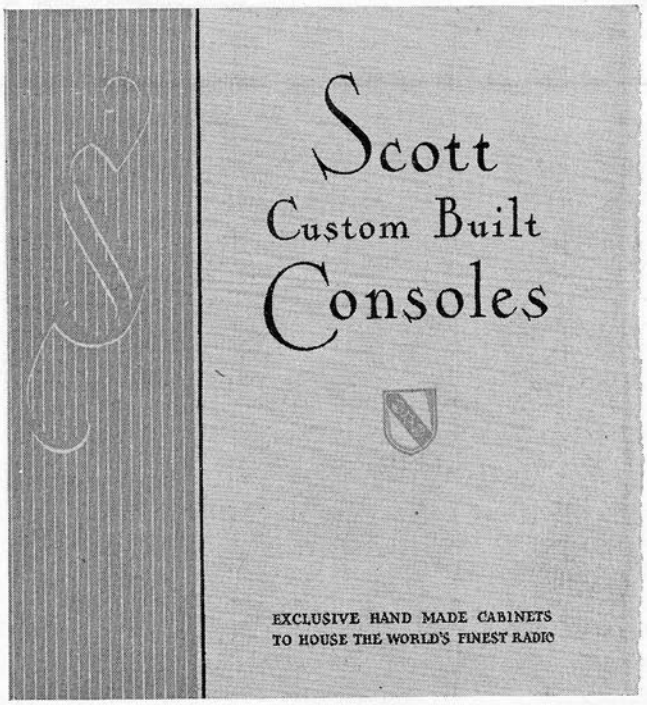
On the back page of this Scott News a number of fine Scott consoles are illustrated, but due to space limitations these pictures are rather small and give no idea of relative size. For those who want further details on each cabinet we have prepared an attractive brochure containing loose leaf illustrations of each console in room settings. These half-tone reproductions are quite large, bringing out clearly each detail of design and general appearance. On the reverse side of each photograph is a complete description of the cabinet, accurate measurements, a statement of just what equipment the console will house, and further details of construction. Included with this brochure is an eight page folder giving additional suggestions on the selection of a fine radio console. If you have not already received a copy, we will gladly mail one on request.

E. H. SCOTT RADIO LABORATORIES, INC.
4450 Ravenswood Ave., Chicago.
Please send latest edition of Scott console brochure.

NAME _____

ADDRESS _____

CITY _____ STATE _____



LATE NEWS ON FREQUENCY MODULATION (FM) BROADCASTING

Very shortly those who own an FM-AM receiver and live in the following locations will be listening to a regular schedule of FM programs: Alexandria (LA), Ashland (KY), Baltimore, Baton Rouge, Binghamton, Chicago, Columbus, Detroit, Evansville, Hartford, Kansas City, Lexington (KY), Los Angeles, Miami, Milwaukee, Mount Washington (NH), Nashville, New York City, Philadelphia, Pittsburgh, Providence, St. Louis, Salt Lake City, San Francisco, Schenectady, Worcester and Youngstown.

While it has taken some time for the Federal Communications Commission to complete the various details in connection with the granting of FM licenses, nearly one-third of the 51 requests pending for the new noise-free, full fidelity broadcasting stations have been acted upon. The government licensing body through its chairman, James L. Fly, expressed conviction that the "granting of these licenses marks an important milestone in the continued advance of the radio industry."

Sound Seems to Fill Entire Room Even At Normal Listening Volumes

Perhaps some idea of Frequency Modulation may be had by the following illustration. In case of ordinary AM transmissions now being broadcasted, the listener is conscious of the fact that the sound issues from the loudspeaker in the console. With Frequency Modulation, the effect is such that the entire room seems to be filled with music, *even though you have the volume turned down to a very low level.* When the spoken voice is heard, the speaker seems to be directly before you, instead of across the room in the loudspeaker horn. The effect is quite uncanny when the announcer lowers his voice or whispers, for it seems as if he is right at your elbow.

All Volume Relationships Maintained

Another very marvelous feature, especially for music lovers, is the fact that there is no volume compression on loud passages. If you will turn on your present radio and listen to a good symphonic type composition, such as an overture, you will notice that there is a gradual climax or "build-up" for the finale. The music gradually increases in loudness and the climax is usually of great intensity. However, when this music is broadcast by present methods, the station engineer must reduce the amount of volume going through the transmitter tubes to avoid blowing them out, and as a result, the otherwise thrilling and satisfying finale is comparatively flat, dull, and colorless.

Frequency Modulation on the other hand, operates on an entirely different principle, and great surges of volume cannot blow out transmitter tubes. *This means that the music can be broadcast exactly as it is played, with all volume contrasts maintained.*

Radio's Latest Bugbear Eliminated —Interference, Noise, and Static

Comparative freedom from static is another great advantage of Frequency Modulation for those listeners who are now troubled by static during the summer months. With FM your favorite programs may be tuned in without a trace of static if you are located within the service area of the FM transmitter. *As a matter of fact, however, there is no static whatsoever—regardless of the distance of a station—if the power of the transmission is only slightly more than twice that of the static or electrical interference.*

How to Select the Right Type of FM-AM Radio

It should be distinctly understood that all these marvelous advantages of Frequency Modulation will be evident *only to those who have a properly engineered receiver.* It is quite a simple matter to check the efficiency of any AM-FM radio on the market, as there are only a few important facts which must be determined.

First, ask to see the actual curve of the receiver's frequency response. Unless this curve is practically flat from 50 to 15,000 cycles, you will not obtain the fidelity which Frequency Modulation provides. *Second,* you should ask to see the engineering curve which charts the frequency response of the loudspeaker system. Obviously, unless this response (expressed in cycles) equals that of the receiver, you will not obtain the full fidelity of the broadcast. *Third,* ask for an actual Power Output curve of the receiver to see whether the instrument can "handle" sharp contrasts in volume. In my opinion, no receiver with an undistorted output of less than 20 watts can bring you Frequency Modulation programs without distortion.

New FM Monthly Magazine

FM broadcasting is now at such an advanced stage that a monthly magazine, "FM," with its first issue containing 48 pages, is already on the news stand. It contains many interesting discussions of FM which can be easily grasped by the non-technical reader. The November issue, for example, contains the first chapter of a highly constructive article on the background and conception of FM, and the latest FM developments. If you have not seen a copy I would suggest your sending 25c to the FM Company, South Norwalk, Connecticut, for the current issue.

FM Reception Described

It is almost impossible to convey a word-picture of Frequency Modulation to those who have not heard a program broadcasted by this new method. As one musician has said, "It simply does not sound like radio." At the present time, when you compare the fidelity of radio receivers, you subconsciously compare the "tone" of one radio with that of another. This is because you have become accustomed to the sound of radio, and no one consciously tries to compare the fidelity, dynamic variations, and tonal "third dimension" *with the original broadcast.*

With Frequency Modulation, however, a comparative test with any other receiver is unnecessary, for the moment you hear such a program on a properly engineered FM-AM receiver, you realize that it sounds about as much like what you have been accustomed to hearing as the modern high fidelity record sounds like the old Edison cylinder.

What Is the Future of Present Broadcasting Methods?

Naturally, no one in the radio industry wants to obsolete every existing AM receiver which is capable of receiving only our present standard broadcasts. Therefore, I believe that for the next five or six years, the major broadcasting stations will probably use *both methods of broadcasting,* until the listening public has a chance to decide which system of broadcasting they prefer.

SOME RECENT PERFORMANCE REPORTS FROM SCOTT OWNERS

Has Never Seen an Instrument That Can Be Compared With Its Performance and Tone

"THE receiver and console both arrived in perfect condition and I had no difficulty in installing the equipment. It is a beautiful piece of furniture and matches in design and finish our own furniture. The radio receiver is a joy and more than comes up to every expectation. I never have seen an instrument that can be compared with its perfomance and quality of tone. Your faith in your product in being willing to match it against any other receiver is well founded." E. L. Herring—Denver, Colorado.

In Front Row at Opera Instead of in Front of Radio

"Last Saturday I heard 'La Gioconda' over my set. Words fail to express my enthusiasm, and I was so fascinated it was impossible to leave the room until I had heard the whole opera. It felt as though I were in the front row at the opera instead of in front of my radio. Yesterday I played several very old records for some guests, and they sounded wonderful. Caruso's voice was perfect, as though he were here in person. I am very thankful to the guiding thought that led me to your laboratories. Thanks again for the joy you are able to distribute." Mrs. C. W Demmon—Kenilworth, Illinois.

Finest Piece of Workmanship Has Ever Seen

"I've been eager to tell you how enthusiastic I have been about my Scott ever since I received it about ten days ago. Not a day passes without discovering new virtues. The radio mechanism is undoubtedly the finest piece of workmanship I and my friends have ever seen. You and your associates are to be congratulated in constructing an instrument of such excellence. The console too is all that you indicated it would be, for one whose ancestors were among the first cabinet makers in America, it is a thing of beauty even above my expectations at so modest a price. Believe me the Scott is one of the most satisfactory purchases I've ever made." P. M. Riffert—Palmerton, Penna.

European Station in Colorado Described

"I am pleased to report that the Scott receiver with three speaker system and automatic record changer mounted in a Sheraton cabinet has substantiated your claims as to long distance reception and tone quality. You will recall that I am using your doublet antenna installed in the attic of my house, and I have been able to pick up the major European shortwave stations with good volume and relatively small interference. The tone quality surpasses that of the ——— and ——— sets, which the writer has tested." H. F. Seep—Denver, Colorado.

Pipe Organ Music Unbelievably Clear and Lifelike

"I am well pleased with my radio, the tone is wonderful. It brings in pipe-organ music unbelievably clear and lifelike, with by far the best bass I have ever heard reproduced by any radio." James A. Bohrer—Washington, D.C.

Everyone Who Hears Astounded By Reality of Its Tone

"It has been on my conscience for some time that I should write to tell you how much satisfaction I am receiving from my Scott which performs so magnificently. It is no exaggeration to say that everyone who hears it is astounded by the reality of its tone. I, myself, much prefer it to the —— instruments, although I had originally expected to buy one of the latter. The Sheraton console harmonizes perfectly with our antique mahogany furniture by Duncan Phyfe and others, and because of its special hand rubbed finish, most people think it antique also. They certainly never suspect that it is a radio until I open the front doors, when they exclaim how good looking it is as a radio. My wife blesses you for having chosen the Sheraton as one of your consoles. We also greatly enjoy the use of the record player. For some time I have been trying to decide upon the merits of the steel, Recoton needles versus the thorns. I have about decided that the Recotons with the Scratch Suppressor in use about equals the thorns in sweetness of tone, and of course they do not require the continual attention." Thomas C. Wayland—New York, New York.

A Very Remarkable Instrument

"I really should have written you a long time ago to let you know the great amount of enjoyment I am getting from my Scott. It is by far the best of its kind that I have ever heard and I wouldn't part with it for any price unless I knew where I could get another. It is really a very remarkable instrument." Philip F. Clapp—Watertown, Mass.

There Just Isn't Anything to Compare With It

"I received the automatic record changer and installed it in the console and I have given it a good tryout. I can truthfully say that I have never had anything I enjoy as much as this combination which I now have. I tried out the abridged album of Othello which purchased on your recommendation and it certainly was most enjoyable. I have received shortwave broadcasts from London, and Germany which were announced in English and several others which were announced in foreign tongue so I could not tell where it was from. This reception was really remarkable. As for the broadcast band—well! There isn't anything to compare with it." W. H. Robinson—Owosso, Michigan.

Had No Conception How Good Certain Stations Were

"It has been a genuine joy to listen to programs on my Scott. I had no conception of how good certain stations were, and further, no idea that records contained the high and low notes and such perfect tone until I played them through the Scott." H. R. Goforth—Knoxville, Tenn.

Smooth Performance Really Remarkable

"Let me express to you my great satisfaction in having one of your sets. Its smooth performance is really remarkable, and often London, Paris or Berlin come in better than any local station." M. D. Arrouet—Georgetown, Connecticut.

Scott Brings World's Series to Crew of Battleship in Portugal

"You may be interested in learning that I have talked to several shipmates who were on the Trenton in European waters for the past year. They were high in praise of your set and said they considered it indispensable over there. If you listened to the last World's Series you may recall that they read over the Mutual Network an acknowledgment of a radio from the Trenton which reported that the games were being received 'fine' in Lisbon, Portugal. That was on your receiver! They had it piped all over the ship through the ship's own loudspeaker system. I am enjoying my receiver which I consider to be superior in every way." Commander W. B. Goggins—Annapolis, Maryland.

FM and Record Reproduction Best Ever Heard

"My main interest is in FM reception and in quality and faithfulness of phonograph record reproduction. Both are more than satisfactory; the best I ever heard. The FM reception from stations W2XMN at Alpine between 80 and 90 miles to the north is perfect and strong. I am really delighted with the set." S. J. Larned—Saugerties, New York.

Expectations Far Exceeded

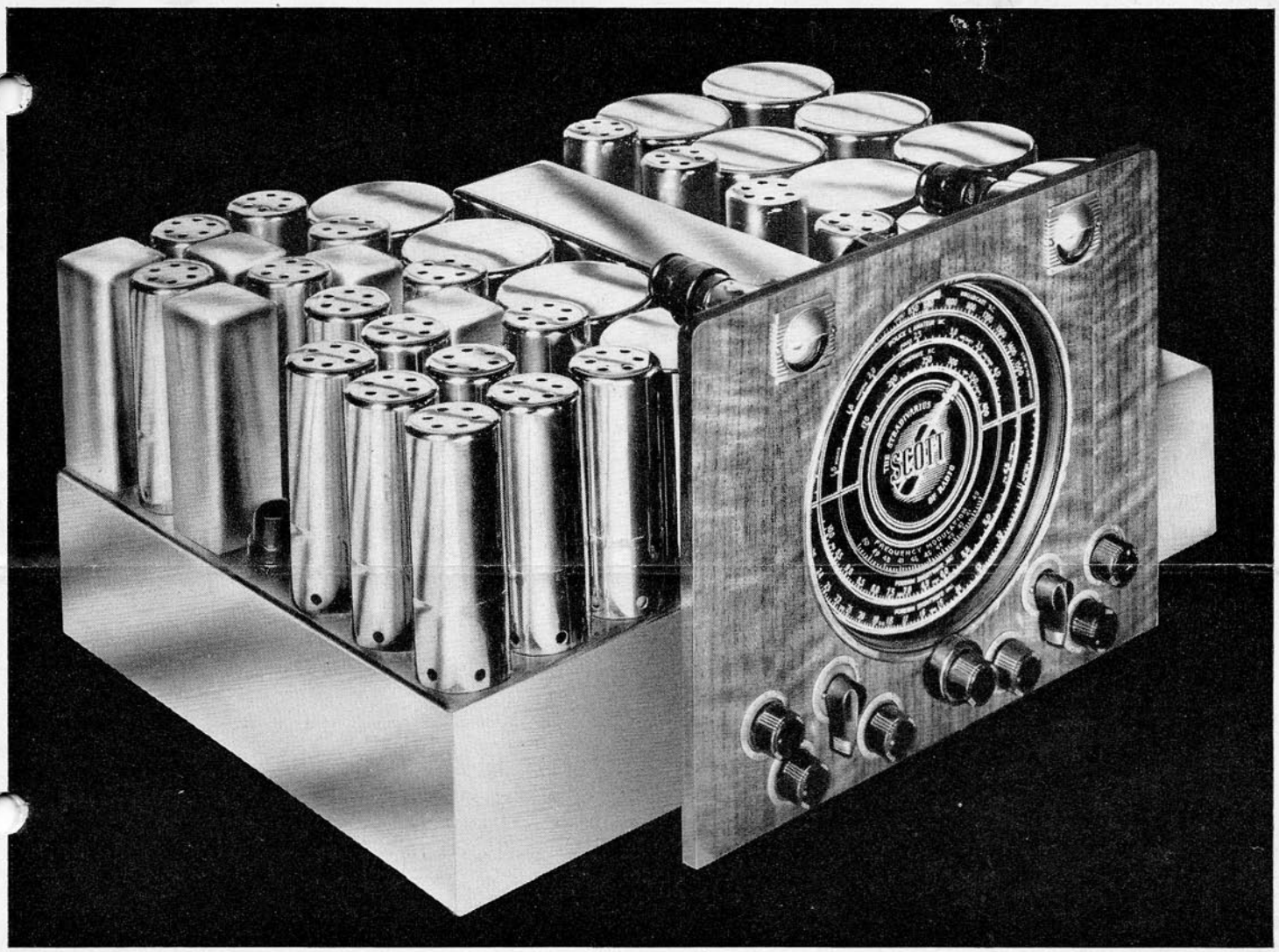
"Just a little letter of appreciation for the helpful letters that you wrote. It makes one feel satisfied to have done business with a firm that doesn't forget you as soon as the sale is made. My expectations of a radio are far exceeded by my beautiful Scott and again I wish to express my deepest appreciation and will surely say a good word for Scott radios whenever I get a chance." Leonard Keller—Baldwin, Michigan.

Workmanship Is Superb

"You must realize a vast amount of pleasure from your customers after they have seen and heard your radio. It's like a surgeon who has done an exceptionally good operation; he experiences a satisfaction money cannot buy. In the first place, your workmanship is superb. The chassis and power pack all in chromium are so pleasing to the eye, it is a shame to put them into a cabinet. All and more than you have written and said about its performance is true. It may interest you to know that I have been able to get the FM station located at Paxton, Massachusetts, Yankee Broadcasting Company, Boston on FM clear and loud as a local station. Also station W2XMN on FM." L. N. Elsinger—Scranton, Penna.

FM Broadcasts Really Amazing

"My Scott arrived in fine shape. Needless to say that I found it remarkable. The FM broadcasts are really amazing; I had an excellent chance to appreciate its advantage, when we had a terrific electrical storm soon after I received the radio. While the AM reception was very noisy, even on local stations, the FM came in without the slightest static. On the shortwaves reception is very good. One afternoon about 5:00, I happened to pick up a Japanese station; I logged it and picked it right up again the next afternoon. That same afternoon I picked up TAP, Ankara, Turkey." A. J. Gendreau—Fall River, Mass.



Tuning Chassis of Scott FM-AM Philharmonic

SCOTT FM-AM PHILHARMONIC

"WORLD'S FINEST" RADIO RECEIVER, INCORPORATING NEW ARMSTRONG WIDE BAND FREQUENCY MODULATION—AND AM SHORT WAVE AND BROADCAST BANDS FROM 13 TO 2,000 METERS

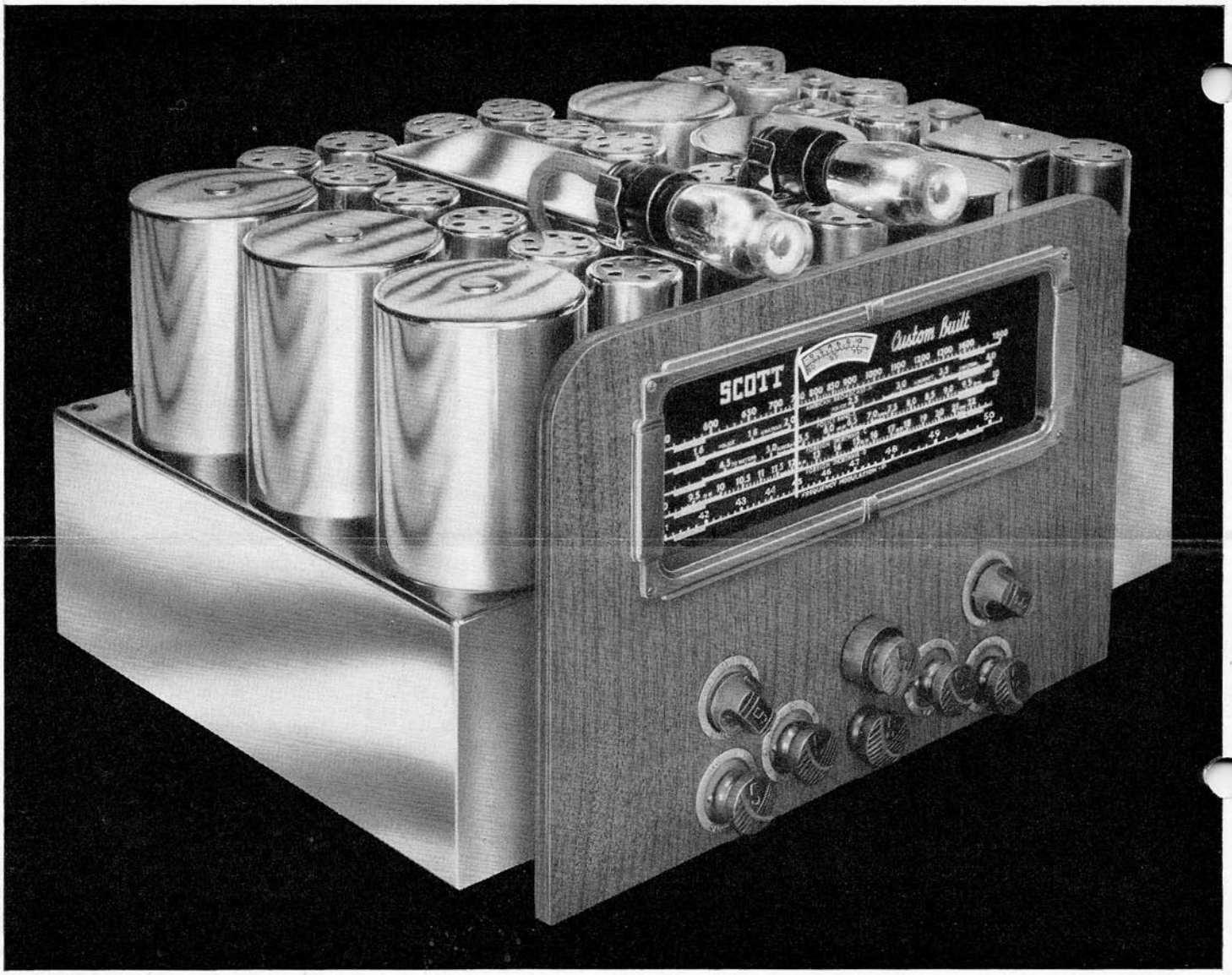
THIS deluxe instrument, incorporating 33 tubes (including tuning indicators and rectifiers) is the result of nearly two decades of research and experiment, and is designed to receive broadcasts from the new FM stations as well as the regular AM stations. It represents the ultimate in radio luxury and today occupies an honored place in fine homes throughout the world.

As a noted and loved musical leader once told me, "To compare its performance with that of any similar product is heresy; there is as much difference between a Scott Philharmonic and other instruments of its kind as there is between a music box and a 90-piece symphony orchestra." While my own estimate of its merit is far more conservative, I nevertheless recommend it as the *ne plus ultra* in receiver design. In order that as close an approach to perfection as possible might be achieved there was no compromise with material, or expense. Each individual circuit has been developed to the most refined point known to engineering science, and we believe it stands alone and unchallenged, and the finest in radio receiving equipment designed for the home.

Words are entirely inadequate to describe one's sensations when first hearing this amazing instrument. The full brilliance and splendor of really great music, when heard through a Scott FM-AM Philharmonic, is an experience that will be treasured for a lifetime. It seems as if you were carried directly into the physical presence of the orchestra, with all its precision, glory, and majesty. Here in our day, is a "miracle of perfection," to use the exact words of the great Toscanini in describing his Scott.

The spoken voice no longer emanates from a horn inside a cabinet, but seems to speak directly into your ears with all the sibilants and fricatives intact. You can even detect the delicate variation in dynamics when the speaker or singer turns his head.

Distance reception, by short wave or standard broadcast, reaches you across the vast expanse of water and land, with hardly a trace of the many annoyances so common on the average radio. For those who have never heard how really good distance reception can be, Scott performance will leave you with an entirely new conception of what is actually possible today.



Tuning Chassis of the Scott FM-AM Phantom Deluxe

The SCOTT FM-AM PHANTOM DELUXE

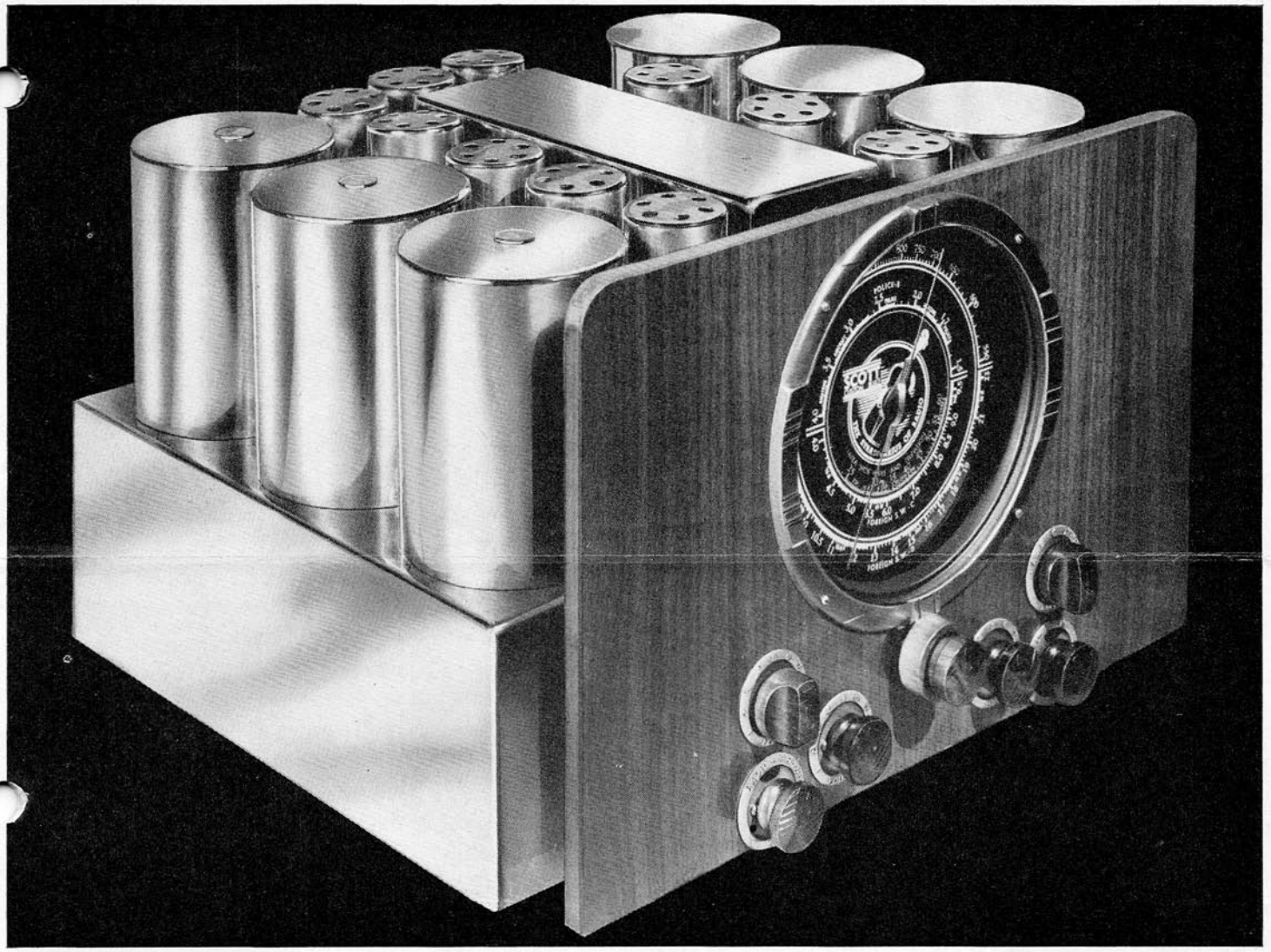
A DELUXE INSTRUMENT FOR RECEPTION OF NEW ARMSTRONG WIDE BAND FREQUENCY MODULATION—FOREIGN SHORT WAVE AND BROADCAST BAND AM STATIONS

ON THE opposite page the Scott Masterpiece is compared with the highest priced radio receivers now being offered. Such an appraisal of a Scott FM-AM Phantom Deluxe, however, is not applicable, as its performance is, we believe, so far superior that it can be compared only with the finest type of professional equipment.

While it incorporates the same fine quality of parts and precision workmanship found in the Scott Masterpiece, the various performance features are carried out to an infinitely higher degree of development and it is designed to receive the new FM stations as well as our present AM stations. The instrument uses a total of 28 tubes, (including tuning indicators and rectifiers) and we believe its performance is years ahead. Particular attention was paid to development of the audio system in order to achieve a tonal response that would rival the original interpretation, bringing out the third dimensional quality of depth, natural resonance, and clarity that is not usually present in even the best production receivers. There is no indistinguishable blur of tone ordinarily heard when listening to a symphony, a full concert orchestra is as enjoyable as a string quartet.

One of the primary reasons why this remarkable instrument enjoys such universal acceptance in the musical world is because its design includes features that were once available only in the $2,500 Scott Quaranta, probably the finest radio receiver ever built. It is a matter of record that literally scores of those who never cared particularly for so-called "classical music" became ardent and enthusiastic devotees after having heard a few records through a Scott Phantom Deluxe. On the other hand, while you may not be overly fond of popular music, I believe I am quite safe in saying you will find it an entirely new experience to tune in a really *good* dance band, for you will now hear hear such music in its *entirety,* nothing added or taken away.

If a radio or record playing combination represents a long-time investment for you, as it does for most people, then the Scott FM-AM Phantom Deluxe is recommended as a logical choice, for you will find it so highly perfected and so advanced in design that I believe it will be many years before you will want to invest in a later model Scott.



Tuning Chassis of Scott Masterpiece

The New SCOTT MASTERPIECE

FOR STANDARD SHORT WAVE AND BROADCAST AMPLITUDE MODULATION STATIONS

MY one purpose in designing the Scott Masterpiece was to develop an instrument that would easily meet our exacting stands of performance, a receiver capable of satisfying fully the most critical test of its owner. Its versatility in handling every phase of radio reception and record reproduction has quickly established the Masterpiece as one of the most popular Scott receivers ever offered. The compact efficiency of the Masterpiece makes possible a maximum in results with a minimum in size.

Other things being equal, the greater the number of tubes in a radio receiver, the finer its tone, the quieter its operation, and the better its long distance performance. For those who want detailed proof of this statement, we have prepared a highly interesting non-technical survey of tube functions which will be mailed on request. This concise summary will be of great value in helping you classify every brand of radio receiver and record-playing combination now being offered to the public.

Those who have carefully checked all radio receivers available today know that the average console radio in the $300 and up class incorporates only about 10 tubes. The Scott Masterpiece priced at less than $200, contains a total of 14 tubes including tuning indicators and rectifiers.

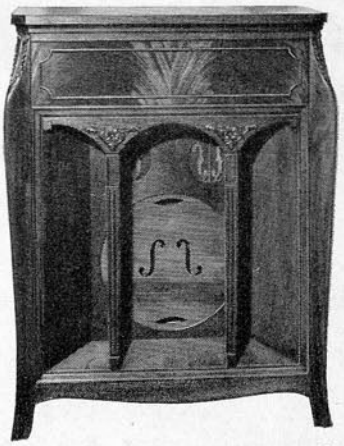
Important as tubes may be, however, this is only one of the many differences between a Scott Masterpiece and other receivers. Its greater naturalness of reproduction on records and radio broadcasts, increased ability to separate interfering stations, greater sensitivity to otherwise weak or inaudible stations at great distances, ability to minimize annoying crackling or electrical interference—all these features and many more are chiefly due to the fact that each Scott is largely HANDMADE from oversize parts of high quality. Proof of this statement is that every unit of a Scott excepting tubes is guaranteed for five years.

Briefly, a Scott Masterpiece is designed as an "introduction" to Scott performance. It is an instrument especially intended for those who have "graduated" from the highest priced mass-production radios, and are now looking for something finer. The Scott Masterpiece, incorporating proved modern developments in radio design, also includes many additional exclusive features which are not found in receivers available through the usual channels.

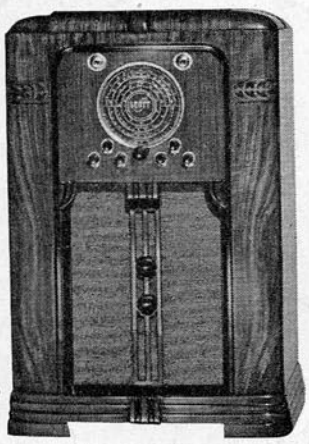
Scott Craftsman Consoles

The Regent

The Chippendale



The Regent Speaker Console

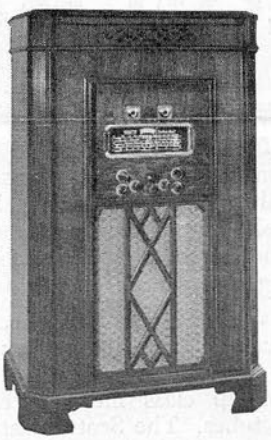


The Warrington

The Victorian

The Braemar

The Georgian



The Wellington

The Sheraton

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