KENNEDY EQUIPMENT

Radio Bulletin C-3

THE COLIN B. KENNEDY COMPANY

RIALTO BUILDING SAN FRANCISCO

THE COLIN B. KENNEDY COMPANY

RIALTO BUILDING SAN FRANCISCO

Type 110 Universal Receiver

As its name implies, the Kennedy Type 110 Universal Regenerative Receiver is *a truly universal radio receiver* for both telephone and telegraph. It stands out pre-eminent among all radio receivers because it can be made to detect, regenerate or oscillate at will with high efficiency, over its entire range of 200 to 25,000 meters.

Type 110 receiver is designed to meet the requirements of those who wish to cover the entire field of radio. It permits of reception on all wave lengths in use today by government, commercial, amateur, special and all broadcasting stations. *We believe it to be, without exception, the finest receiver on the market.* Inductively coupled circuits are employed exclusively, this being accepted as the best method by which to obtain selectivity, or freedom from interference. Energy losses have been reduced to a minimum by proper coil design and mechanical arrangement.

Specifications for Type 110

Cabinet: Highly polished genuine selected walnut. Hinged cover permits easy access to interior.

Panel: Machine engraved, polished Formica.

Indicating Dials: Satin silvered, beveled dials recessed into the panel. Kennedy type fluted Bakelite knobs.

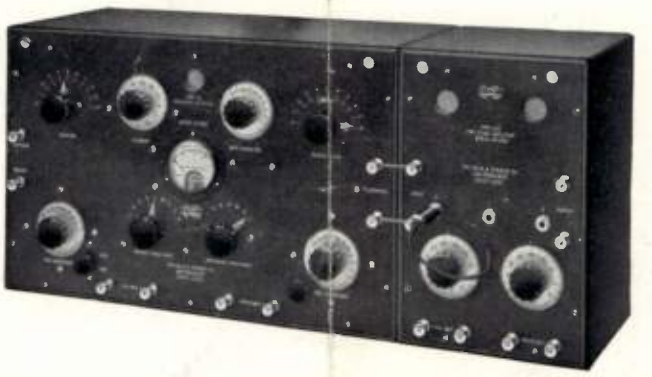
Circuit: Fundamental Armstrong regenerative, with combination of tuned and tickled plate circuit automatically controlled, with respect to the secondary inductance, by a compound switch. A variable air-dielectric grid condenser is provided to permit the most efficient use of all types of vacuum tubes. The antenna circuit is inductively coupled to the secondary circuit and the coupling may be varied over 180° range. It is tuned by a multiple switch and a continuously variable antenna condenser which may be placed in shunt or series, thus permitting wide latitude in antenna design.

Vacuum tube control self contained with tube mounted inside the cabinet. A screened window permits tube observation and a Weston voltmeter is provided to insure proper regulation.

Condensers: Primary and secondary variable condensers with heavy aluminum plates sufficiently spaced to preclude the possibility of short circuiting. These condensers are mechanically balanced by placing one half the plates in diametric opposition to the other half. The secondary condenser is provided with a micrometer adjustment for close tuning.

Inductances: Special Kennedy bank-wound coils with the proper ratio of inductance to radio frequency resistance. All control switches are concealed from view and are operated by the use of indicating scales engraved on the panel.

Type 110
Universal
Regenerative
Receiver
$285.00



Type 525
Amplifier
$85.00

All prices f. o. b. San Francisco or Saint Louis. Vacuum tubes are not included at these prices.

Kennedy Regenerative Receivers are licensed under Armstrong U. S. Patent, No. 1,113,149 for amateur and experimental use.

The

KENNEDY DEALER

THE Kennedy dealer implicitly believes as we do, that a permanent, successful business can be founded only on satisfied customers. That is why he sells and recommends Kennedy sets. And he is in honor bound to give you the same high grade of service and satisfaction that is characteristic of Kennedy Equipment.

THE COLIN B. KENNEDY COMPANY
SAINT LOUIS

Printed in U. S. A.

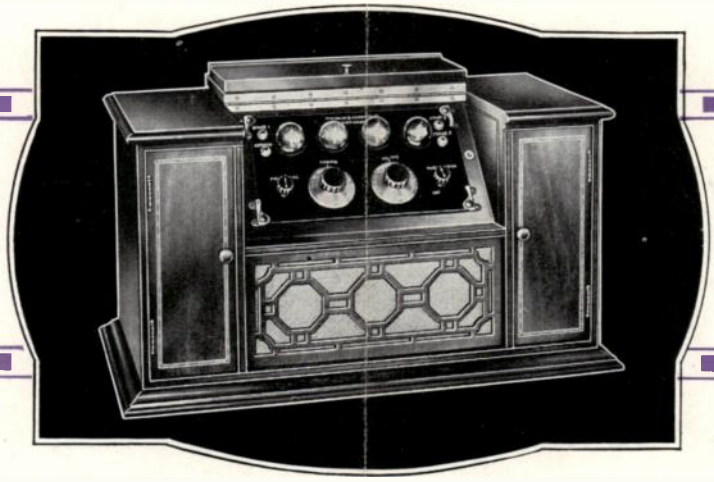
KENNEDY

The Royalty K *of Radio*

Model XI

(Four Tubes)

MODEL XI



FOUR TUBES

A Radio Receiver de Luxe, With Built-in Loud Speaker

MODEL XI is a new 4-tube Kennedy Receiver, with built-in loud speaker. It is designed to bring in the more powerful broadcasting stations with a volume sufficient to entertain a roomful of guests.

Even with this greatly increased volume, it preserves the same remarkable tone purity that has made Kennedy Receivers famous. Programs are reproduced over the loud speaker with a realism and color that transforms your living room into a concert hall, studio or ball room.

It is easy to tune. *With one single dial* anyone can bring in dozens of distant stations, one after another. There is an individual dial setting for each station—once you locate a station you can always return to it with ease. Volume is controlled with a second dial. Does not radiate or throw out the howling and screeching noises which are causing such serious agitation against radiating receivers.

The cabinet is typically Sheraton, executed in rich mahogany with satinwood and ebony inlay. Sloping panel provides ease in tuning. Compartments at right and left enclose all accessories.

The circuit used is an exclusive development of Kennedy Engineers. It is fundamentally right and will give satisfactory enjoyment for years.

Price, without accessories, $244.00 ($249.00 west of Rockies). With Kennedy 3,000-ohm phones and plug, $254.00 ($259.00 west of Rockies). With Kennedy 3,000-ohm phones, phone plug, 4 tubes, 4 socket adapters, 3 dry-cell "A" batteries and 3 large-size 22½-volt "B" batteries, $285.00 ($290.00 west of Rockies).

THE COLIN B. KENNEDY COMPANY, SAINT LOUIS

Kennedy Receivers are licensed under Armstrong U. S. Patent No. 1,113,149

KENNEDY

The Royalty of Radio

KENNEDY

Regenerative Radio Receivers and Amplifiers

THE KENNEDY radio apparatus described in this folder was created with the definite purpose of supplying the discriminating buyer with radio receiving equipment of the highest quality and commensurate superiority in service.

Maximum pleasure from radio can be derived only from a radio set that is capable of receiving and clearly reproducing voices, music and signals over an adequate range of wavelengths—a set that is easy to operate and attractive in appearance. All of these requirements are met by the correctly balanced design, superior workmanship, selected materials and beautiful finish of KENNEDY radio sets.

Easy to Operate: KENNEDY radio sets are easy to operate because they have the fewest controls consistent with high selectivity and minimum loss of energy.

Close Tuning: Most effective means of tuning out interference is assured KENNEDY owners by the KENNEDY method of varying the inductive coupling of the circuits.

High Efficiency: KENNEDY radio sets are so designed as to be capable of operating over their entire tuning range with minimum loss of energy. Signals are received at maximum strength, which is made evident in quality and volume of tone.

Dependability: The design of KENNEDY radio apparatus embodies the most advanced radio engineering practice, and its construction is governed by exacting standards of accuracy. Only flexible, soldered connections are used for rotating inductances or condenser units—a feature which effectively prevents high resistance contact troubles common with sets in which sliding contacts are employed in the very sensitive high frequency circuits.

Handsome Appearance: The beauty of material and finish instantly apparent in KENNEDY equipment adds immeasurably to the pride owners feel in exhibiting their KENNEDY sets to their friends.

THE COLIN B. KENNEDY COMPANY

SAINT LOUIS SAN FRANCISCO

KENNEDY

The Royalty of Radio

KENNEDY

The Royalty  *of Radio*

RADIO UNIT TYPE 430

(Including Model XV Receiver)

THE COLIN B. KENNEDY COMPANY
SAINT LOUIS

Tuning Instructions

If batteries, aerial and ground have not been connected up by a Kennedy dealer, see detailed instructions on pages 8 to 13.

Following are instructions for operating this set, assuming that it has been properly connected up.

1. Turn "TUBE CONTROL" knob to right until tubes light up properly (usually a dull red).

2. Plug in loud speaker at "STAGE 2," or head phones at "STAGE 1."

3. Set "Volume" pointer at 2 and "SELECTIVITY" pointer at 2.

4. Set both "TUNING" dials at 0.

5. The various broadcasting stations will come in on "TUNING 1," each at its own setting, with the same, or nearly the same, setting of "TUNING 2."

Turn "TUNING 1" very SLOWLY, and at the same time, with the other hand, turn "TUNING 2" slowly back and forth a few divisions each way from the position of "TUNING 1." When these two dials are "in tune" with each other, a slight hissing or crackling noise will be heard, even if no station is operating on that particular setting. When a setting is reached on which you hear a station operating, set both "TUNING" dials as accurately as possible for maximum loudness.

6. Now turn the "VOLUME" knob up or down slowly until the best combination of clearness and loudness is obtained.

7. Now readjust "TUBE CONTROL" knob until certain that the tubes are no brighter than is necessary for best results.

8. If you desire to find stations by the "carrier wave" or "whistle" method, first set "VOLUME" at 3½ and after tuning to "center" of whistle turn "VOLUME" to left until station is clear.

Equipment Required

The equipment will depend on the kind of antenna and the kind of tubes to be used. Before deciding on this matter, it is well to read page 6 regarding choice of antenna, and page 7 on the subject of tubes.

ANTENNA MATERIAL:

1. *Outdoor Antenna*—100 to 250 feet of No. 14 Bare Hard Drawn Copper, or Copper Clad Steel Wire, or equivalent.
   Two or more Strain Insulators.
   One Lead-in Tube or Insulator.
   One Lightning Arrester.

2. *Indoor Antenna.*—50 to 100 feet Copper Wire, any size from No. 16 to No. 30, insulated. "Annunciator" Wire or fixture cord is good.

3. Substitute for Antenna—"Ducon" or "Antenella" Plug, or equivalent.

TUBES:

One of following items:

1. 5 "UV-201A" or 5 "C-301A," or equivalent, tubes.
2. 5 "UV-199" or 5 "C-299," or equivalent, tubes.
   5 Socket Adapters for same.

"A" BATTERY:

Select either Item 1 or Item 2, according to choice of tubes.

1. One 6-volt Storage Battery. Capacity 60 to 120 ampere hours. A battery charger for same is recommended.
2. Three "No. 6" Dry Cells.

"B" BATTERY:

Four 22½-volt large size, upright, "B" Batteries, such as Burgess, Eveready, Ray-O-Vac, or equivalent.

OTHER EQUIPMENT:

One pair Head Telephones with Plug.

One Loud Speaker with Plug.

One Ground Clamp.

Twenty to fifty feet No. 16 or No. 18 fixture cord, or other well insulated stranded copper wire for making connections.

Choice of Antenna

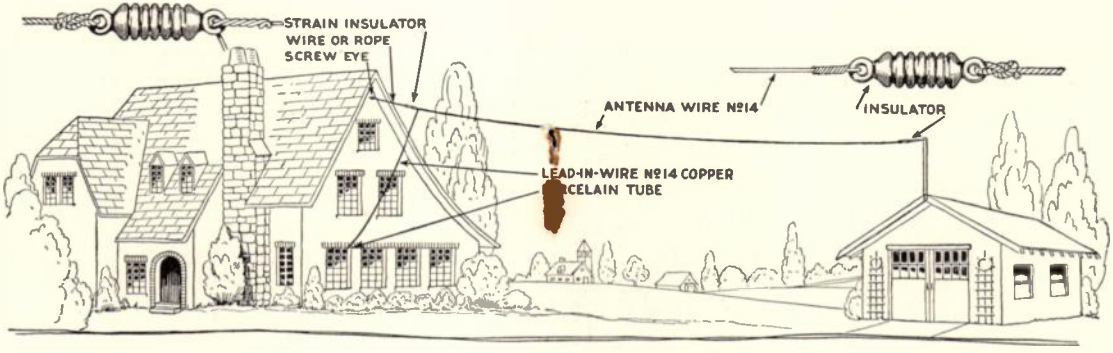
The Antenna is the wire which "catches" the radio waves and brings the feeble current to the receiving set. This wire may be outside, suspended, for example, between two buildings, or it may be inside, such as a wire placed around a room on the picture molding, or the electric light or telephone wires may be used to "catch" the waves. Apparatus for making connections with these latter wires are known as "Antenna Substitutes."

The outdoor type of antenna is highly desirable and can usually be relied upon to give greater volume and better distance reception than any other antenna. It is, therefore, recommended whenever possible.

When an outdoor antenna cannot be erected, the indoor type is often employed. The results obtainable from such an antenna are usually very good on nearby stations and, in some cases, fair results may be obtained on distant stations. The location has a great deal to do with results obtainable from this type of antenna, and the results can scarcely be predicted without trying it out.

In some cases, the electric light wiring makes an excellent antenna and it can usually be relied upon in all cases to give good results on local stations. The results will greatly depend on whether the street wiring is above or below ground and the method in which the house is wired. Again, it may be said that results cannot be predicted and the only

KENNEDY RADIO UNIT TYPE 430



Installation of Outdoor Antenna

Regarding the size of the antenna, a good rule to follow is to make it just as long and as high as can conveniently be erected in any particular case, and then to shorten it somewhat if too much interference is experienced.

The length and height of an outdoor antenna is a compromise between signal strength on one hand and interference on the other. Naturally, the higher and longer an antenna is, the more energy it is able to collect. This means that not only will any given broadcasting station be heard louder but there will be more interference to tune out on a very high or very long antenna. Antennae which are satisfactory for this Kennedy set may be anywhere from fifty to two hundred feet long. Unlike most other receiving sets, the length of the aerial has little to do with the tuning of a Kennedy set and, therefore, no aerial is too short or too long to tune in all the broadcast stations that are near enough to be heard.

There is no advantage in using more than a single wire in a receiving antenna. Multiple wires are of use in transmitting only.

The antenna should not be directly parallel to power wires and, wherever possible, should be placed at right angles and never cross them. This also applies to trolley lines. It is also advisable to keep the antenna at least fifteen feet from such wires at the nearest point. Such wires are sometimes a source of interference. This is not always the case, however, and where the only suitable location for an antenna is parallel to power lines, it should be tried.

The antenna wire should be kept above surrounding trees and buildings, if possible. Under no condition should it touch the foliage of trees.

The lead-in, as the wire running from the antenna proper to the set is called, should be carefully insulated at every point where it comes in contact with the building or other supports.

A lightning arrester approved by the National Board of Fire Underwriters should be used. It should be permanently connected between the lead-in wire from the aerial and a direct wire to ground. When such an arrester is properly connected, the antenna cannot increase the hazard from lightning and, in most cases, will diminish it. (See illustration on pages 8 and 9.)

Installation of Indoor Antenna

An insulated wire, such as "Annunciator" wire or fixture cord, may be placed around a room on top of picture molding. One end may be brought down for connecting to the set.

Insulated staples may be used to hold such a wire in place.

A good indoor antenna may often be supplied by running a wire from end to end of the attic and insulating the same as an outdoor antenna.

When an indoor antenna is used, no lightning arrester is required.

practical way of judging such an antenna substitute in any particular location is to try it out.

CHOICE OF TUBES:

The best tubes now on the market for use in this set are the five-volt storage battery tubes, such as the UV-201A, C-301A or equivalent. These tubes require a storage battery and charger. If the latter are properly installed in the basement or in a special box made for the purpose, there will be no inconvenience or trouble from the use of the storage battery, and it can be taken care of by anyone.

Dry Cell tubes, such as UV-199, C-299, or equivalent, may be used in this set. These tubes do not give as much volume as the storage battery tubes, but will nevertheless perform satisfactorily. However, dry cell tubes vary greatly in their characteristics and it is sometimes necessary to carefully select them in order to obtain good ones. With these tubes three No. 6 dry cells are used in place of the storage battery. These dry cells will require replacing after 60 to 75 hours' use of the set.

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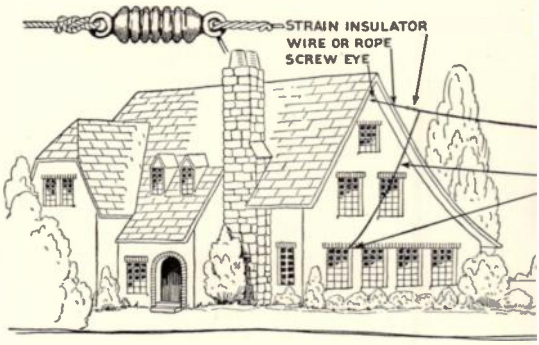

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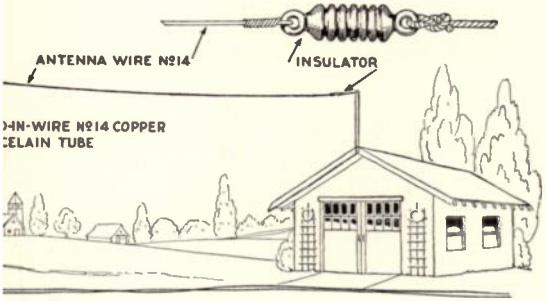

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A good indoor antenna may often be supplied by running a wire from end to end of the attic and insulating the same as an outdoor antenna.

When an indoor antenna is used, no lightning arrester is required.

Use of an Antenna Substitute

In order to make use of electric light wiring in place of an antenna, use only a plug approved by the National Board of Fire Underwriters. When such a plug is used, there is no danger whatever, but it is dangerous to use a direct connection to these wires, or to use a makeshift device.

A wire is connected from one of the binding posts on the plug to the "ANT." binding post on the receiver.

In order to use the telephone line in place of an antenna, it is simply necessary to place the ordinary desk type telephone on a small sheet of metal—eight or ten inches in diameter. A wire is soldered to this sheet of metal and connected to the "ANT." binding post on the receiver.

For making this connection, as well as for connecting up batteries, make use of the flexible wire mentioned at the end of the list of "EQUIPMENT REQUIRED."

Loop

For local work, and under some conditions, for long distance work, a loop antenna may be employed. This loop should consist of fourteen turns, spirally wound. Spacing between turns should be one-half inch. The loop should be 24 inches x 24 inches. Two wires from this loop should be brought to an ordinary telephone plug and this plug inserted in the jack marked "LOOP."

Ground

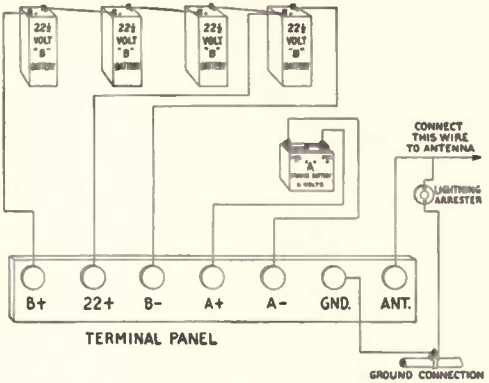
A good ground connection should be used, no matter what type of antenna is employed. Since most metal piping in every building makes good contact with the ground, it is simply necessary to run a wire to such a pipe. However, no gas pipe may be used as it is a dangerous practice and, in most cases, prohibited. Water pipes and steam heating systems are generally reliable, although the surest ground connection is a cold water pipe. Make use of the ground clamp, first carefully scraping or sand-papering the pipe until the metal is bright and clean. Make the ground wire as direct and short as possible.

If the installation is in a rural district where the water supply system is a private one, this will also furnish an excellent ground. If neither a water supply pipe or a steam radiator is available, it will be necessary to provide an independent ground, preferably by burying a copper plate about 1-32 inch thick and two feet square, or larger, as deep in the moist earth as practicable. To this should be securely soldered the ground wire.

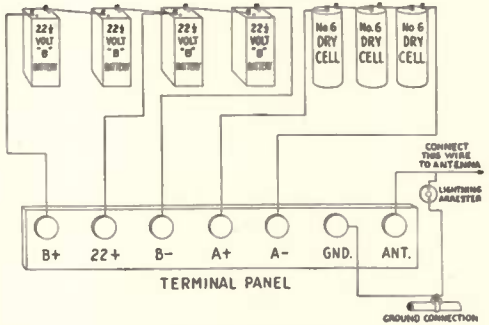
Connecting Batteries

First connect the "A" battery leads in accordance with the proper diagram below and insert tubes in all five sockets. Turn the "TUBE CONTROL" knob to the right and make sure that all tubes light. Leave the tubes

lighted while connecting up "B" batteries in accordance with the proper diagram.



Battery Connections for UV-201A or C-301A Tubes.



Battery Connections for UV-199 or C-299 Tubes.

Troubles

When a radio set refuses to work or does not work satisfactorily, the trouble may come under any one of the following headings: batteries, tubes, antenna, ground, radio set.

Unless the cause of the trouble is apparent at once, it should be looked for under these headings in the order named, as experience has shown that batteries and tubes are the sources of practically all troubles encountered in well constructed receiving sets.

When noise is encountered in a receiving set, that is, when it is impossible to "clear up" the music and keep out crackling or other disturbing noises, the source may be outside, such as atmospheric disturbances or leaks from electric light wires. The noise may also be due to defective or old "B" batteries or a loose connection, either to the batteries or within the set. The first thing to do is to disconnect the antenna lead from the set. If the noise stops it comes from outside and indicates that the trouble is not in the set or batteries. If the noise continues, the cause may be a defective "B" battery and they should be tested. If this fails to reveal the cause, examine carefully all battery wires, making sure they are not broken and also making sure that all connections are firm and clean.

To test batteries use a voltmeter. In order to test the "A" battery, connect the voltmeter to this battery while tubes are all lighted. If a storage battery is used the meter should read not less than 5.8 volts, and if dry

cell tubes are used, not less than one volt each.

"B" batteries should show not less than 18 volts for each 22½-volt section, or 36 volts for each 45-volt section.

Batteries should always be tested while the set is operating.

If it is necessary to turn the rheostat as far as it will go to the right to make the set operate, it is a sign that the "A" battery has too low a voltage.

The set will not work if either "A" or "B" batteries are reversed.

As the first and second tubes from the left (the detector and second radio frequency amplifier) are more critical than any of the others, it is well to try all tubes in these sockets in order to pick out the tubes that will give the best results. To try tubes as amplifiers, plug in at stage No. 1, while a local station is on the air. Tubes may then be compared by trying them, one after the other, in the third socket.

It is well to try out all tubes occasionally, as they usually become inactive long before they actually burn out.

When plugging in from the detector to the first stage or from the first to the second stage, it is necessary to advance the rheostat slightly to take care of the increase of current made necessary when the additional tubes become active.

This is important as otherwise there will be no increase in the volume.

Defective antenna or ground connections may be a cause of poor reception. If the antenna wire is not continuous, all joints must be soldered. If the wire is simply twisted together it will work satisfactorily for a time but corrosion will finally cause trouble. Make sure also that the ground connection is clean and firm.

Warranty

"The Colin B. Kennedy Company warrants all radio apparatus of its manufacture to be free from defects in material and workmanship under normal use and service, and for a period of ninety (90) days after delivery to the original purchaser agrees to make good at its factory any part, or parts, which upon examination by it shall prove defective, provided such part or complete apparatus is delivered to its factory with transportation charges prepaid; this warranty being expressly in lieu of all other warranties, either expressed or implied.

"This warranty shall not apply to any apparatus which shall have been repaired or altered outside of our factory, nor which, upon examination, shall be found to have been subjected to abuse, mis-use or accident.

"The Colin B. Kennedy Company reserves the right to make changes or improvements in its apparatus at any time without thereby incurring any obligation to install same in apparatus previously sold."

Printed in U. S. A.

The Royalty of Radio

The New KENNEDY PREMIER

7-TUBE PENTODE-VARIABLE-MU SUPERHETERODYNE

Complete with tubes **$63.50** Western Prices Slightly Higher

Mighty Superheterodyne performance is built into this distinctive high boy console cabinet with fluted sides, gracefully turned legs, ornate scroll carvings and duo-tones. Equipped with model 52 chassis and 8-inch electro-dynamic speaker of latest design. Once more Kennedy demonstrates supreme value-giving!

Dimensions: 37 in. high, 21 in. wide, 12 in. deep.

The Royalty of Radio

SENSATIONAL IN FEATURES AND PERFORMANCE

The New KENNEDY SOVEREIGN

8 TUBE — PUSH-PULL — PENTODE — VARIO-MU SUPERHETERODYNE

Complete with tubes **$89.50** Western Prices Slightly Higher

Here is another Kennedy triumph that stands head and shoulders above the crowd! An 8-tube Superheterodyne receiver, employing push-pull pentode tubes, manufactured with the care of a custom built set. Deeply fluted side panels, ornate carvings and graceful legs. Front panel is in rich Australian Laurel. No. 56 chassis.

Dimensions: 40 inches high, 24 inches wide, 14 inches deep. Escutcheon plate in four color Cloisonné . . . knobs in duo-tone brown Cloisonné.

The Royalty of Radio

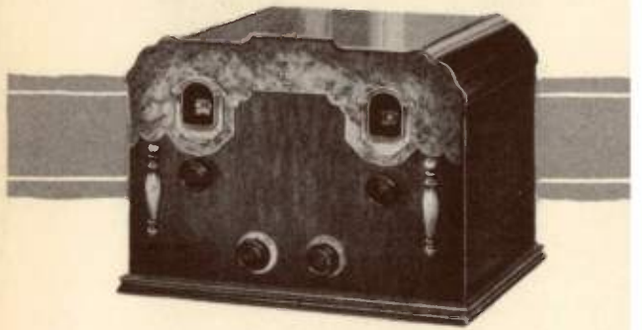
SPECIFICATIONS

Model 56		Model 52
18-gauge cold rolled auto body steel, drawn and formed for greatest mechanical rigidity.	**CHASSIS**	18-gauge cold rolled auto body steel, drawn, formed and electric welded to give greatest mechanical rigidity.
Superheterodyne, employing eight tubes. Seven tuned circuits. Variable-Mu and push-pull Pentode tubes.	**CIRCUIT**	7 tube Superheterodyne circuit. Seven tuned circuits. 2 power detectors.
Total shielding. Aluminum coil shields. Radiation reduced to minimum. Steel parts electroplated.	**SHIELDING**	Total shielding. Aluminum RF and IF coil shields. Steel parts electroplated.
Three-gang tuning condensers, fully shielded, large bearings. Three-point suspension, rubber cushion mounted. Electrolytic, self-healing filter condensers.	**CONDENSERS**	Ruggedly built 3 gang tuning condenser. Electrolytic self-healing filter condensers. Semi-variable condensers Isolantite mounted.
Total of eight tubes, R. F. and I. F. 1-280, 2-247, 2-551, 1-224, 2-227.	**TUBES**	2—551, 235 or 224. 1—224 1st detector. 2—227 Osc. & 2nd Detr. 1—247 pentode. 1—280 rectifier.
Exceptional selectivity due to use of Superheterodyne principle and number of tuned circuits.	**SELECTIVITY**	Exceptionally selective, due to use of Superheterodyne principle and number of tuned circuits.
Single dial, smooth friction Vernier control. No "Backlash." Full vision dial calibrated in kilocycles. Kennedy "Selectone" control.	**CONTROLS**	Single dial, smooth friction vernier control. No "Backlash." Dial calibrated in kilocycles. Kennedy "Selectone" control.
All electric. No batteries required. Models for either 60-cycle or 25-30 cycle alternating current.	**POWER**	All electric. Models for either 60 cycle or 25-30 cycle alternating current.

Colin B. Kennedy Corporation, South Bend, Indiana

The Royalty of Radio

Modernize Your Radio!



Enjoy the thrill of Short Wave Reception *with the new* KENNEDY GLOBE-TROTTER

For Use With Any Radio

Complete with tubes **$42.50** Western Prices Slightly Higher

Tunes in American and Foreign broadcasting . . . police calls . . . amateur and Naval Code . . . Transoceanic Telephony . . . Television Signals. The "Globe-Trotter" lives up to its name!

(*Makes a short-wave Superheterodyne of any receiver.*)

Dimensions: 14 inches wide, 10½ inches high, 10½ inches deep.

KENNEDY

The Royalty of Radio

YOU ARE INVITED

We will be pleased to give you an interesting demonstration of

These New Kennedy Radios

Your Kennedy Dealer

KENNEDY

1911 1932

What You Have Expected in MODERN RADIO *is here!*

The Royalty of Radio

Now

KENNEDY

The Royalty of Radio

Presents—

an All-Purpose Radio of graceful design and utility

The New Kennedy BARONET

7-tube Pentode Variable-Mu SUPERHETERODYNE

$49.50

COMPLETE WITH TUBES
Western Prices Slightly Higher

BEAUTY! UTILITY! LOW PRICE!

A 7-tube Superheterodyne of extreme selectivity, giving big-Radio performance is built into this fine Gothic cabinet. This model represents a supreme value in the radio industry. Here is everything desired in radio in compact form . . . it can be easily moved from room to room, weighing but 25 pounds . . . its all-around utility plus its beauty of design makes the Baronet a welcome guest in any home. Cabinet of hand high-lighted Oriental walnut with contrasting overlays of fiddle-back maple—durable construction with solid sides—houses model 52 chassis. The sensitivity, selectivity and tonal qualities are far above the average radio of this type . . . here is a DYNAMIC RADIO in every sense of the word! Kennedy Selectone Control.

Dimensions: 18 inches high, 15 inches wide, 11 inches deep. Equipped with 8-inch electro dynamic speaker of very latest design.

KENNEDY QUALITY and PERFORMANCE at an Amazingly Low Price!

◆ A STUDEBAKER FAMILY PRODUCT ◆

Instruction Book

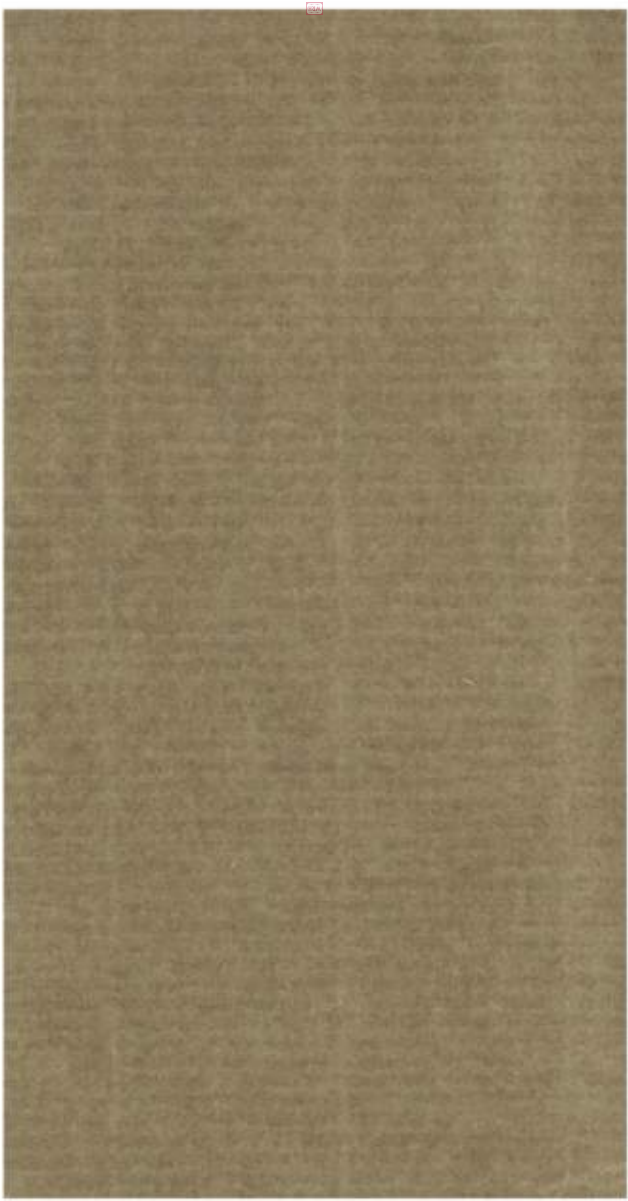
for

Model Twenty

Receiver

KENNEDY

The Royalty of Radio



KENNEDY

The Royalty  *of Radio*

Model Twenty Receiver

(Radio Unit Type-440)

Price 25 Cents

THE COLIN B. KENNEDY COMPANY
SAINT LOUIS

Tuning Instructions

If batteries, aerial and ground have not been connected up by a Kennedy dealer, see detailed instructions on pages 6 to 13.

Following are instructions for operating this set, assuming that it has been properly connected up.

1. Pull out knob marked "Switch" and turn "TUBE CONTROL" knob to right until tubes light up properly (usually a dull red).

2. Plug in loud speaker at "Stage 2" (on the right-hand end of the terminal panel, inside the cabinet).

3. The large dial in the center is the tuning control and is operated by the small knob adjacent to it. The various broadcasting stations will come in as this large dial is turned, each at its own setting.

Turn the large dial very SLOWLY and at the same time, with the other hand, keep the "VOLUME" knob as nearly as possible at the position for best results.

The "VOLUME" knob at the right side of the panel is used to adjust the set for the best combination of volume and quality and is usually operated between 1 and 3. If it is turned too far to the left the set will not be sensitive enough, except for local stations, and if it is turned too far to the right a broadcasting station will be indicated by

a whistle in the loud speaker. A little experience will soon show the proper setting for best results.

This control is a distinctive feature of Kennedy Receivers. It enables the user to operate his set at maximum efficiency on all broadcasting stations, regardless of their wave length. It also permits the efficient use of various types of tubes, thereby greatly increasing the flexibility of the set.

4. When a setting is reached on which you hear a station operating, set the large dial and the "VOLUME" knob as accurately as possible for maximum loudness without distortion.

5. It is advisable to adjust the "TUBE CONTROL" until certain that the tubes are no brighter than is necessary for best results. By following this practice the tubes will last longer.

6. By keeping a record of the setting for each station on the large dial only, it will be found easy to go back at any future time to any desired station.

Choice of Antenna

The Antenna is the wire which "catches" the radio waves and brings the feeble current to the receiving set. This wire may be outside, suspended, for example, between two buildings, or it may be inside, such as a wire placed around a room on the pictur molding; or the electric light or telephone

wires may be used to "catch" the waves. Apparatus for making connections with these latter wires are known as "Antenna Substitutes".

The outdoor type of antenna is highly desirable and can usually be relied upon to give greater volume and better distance reception than any other antenna. It is, therefore, recommended whenever possible.

When an outdoor antenna cannot be erected, the indoor type is often employed.

The results obtainable from such an antenna are usually very good on nearby stations and in some cases fair results may be obtained on distant stations. The location has a great deal to do with this type of antenna, and the results can scarcely be predicted without trying it out.

In some cases, the electric light wiring makes an excellent antenna and it can usually be relied upon in all cases to give good results on local stations. However, this will greatly depend on whether the street wiring is above or below ground and the method in which the house is wired. Again, it may be said that results cannot be predicted and the only practical way of judging such an antenna substitute in any particular location is to try it out.

Choice of Tubes

The best tubes now on the market for use in this set are the five-volt storage-bat-

tery tubes, such as the UV-201A, C-301A or equivalent. These tubes require a storage battery and charger. If the latter are properly installed in the basement or in a special box made for the purpose, there will be no inconvenience or trouble from the use of the storage battery, and it can be taken care of very simply by anyone.

Dry-cell tubes, such as UV-199, C-299, or equivalent, may be used in this set. These tubes do not give as much volume as the storage-battery tubes, but will nevertheless perform satisfactorily. However, dry-cell tubes often vary greatly in their characteristics and it may be necessary to carefully select them in order to obtain thoroughly satisfactory ones. With these tubes three No. 6 dry-cells are used in place of the storage battery. These dry-cells will require replacing after 60 to 75 hours' use of the set.

Installation of Outdoor Antenna

The length of antenna which will in most cases give best results with this set is from 60 to 100 feet, including the lead-in wire. Of course, it is not always convenient to remain within these limits and in such cases a longer or shorter wire should be tried.

Naturally, the longer and higher the antenna is the more energy it is able to collect. This means that not only will any given broadcasting station be heard louder, but it

will also bring in more static and interference from other stations.

On the other hand, a very short antenna, such as 20 or 30 feet, may perform satisfactorily in some localities, but usually it will not provide sufficient volume.

There is no advantage in using more than a single wire in a receiving antenna. Multiple wires are of use in sending stations only.

The antenna wire should never cross either under or over power lines or trolley wires, due to the danger involved. It is also advisable to keep the antenna at least 15 feet from such wires at the nearest point, and at right angles to them, because such wires are sometimes a source of interference. This is not always the case however, and where the only suitable location for an antenna is parallel or near to power lines, it should be tried.

The antenna wire should be kept above surrounding trees and buildings if possible. Under no condition should it touch the foliage of trees. If the antenna wire is not continuous, all joints must be soldered. If the wire is simply twisted together it will work satisfactorily for a time, but corrosion will finally cause trouble in the way of weak or noisy reception. The lead-in, as the wire running from the antenna proper to the set is called, should be carefully insulated at every point where it comes in contact with

the building or other supports. The illustration on pages 10 and 11 shows a common type of installation.

A lightning arrester approved by the National Board of Fire Underwriters should be used. It should be permanently connected between the lead-in wire from the aerial and a direct wire to ground. When such an arrester is properly connected, the antenna cannot increase the hazard from lightning and, in most cases, will actually diminish it. (See illustration on page 12.)

Installation of Indoor Antenna

An insulated wire, such as "Annunciator" wire or fixture cord, may be placed around a room on top of the picture molding. One end may be brought down for connecting to the set.

Insulated staples may be used to hold such a wire in place.

A good indoor antenna may often be supplied by running a wire from end to end of the attic and insulating the same as an outdoor antenna.

When an indoor antenna is used, no lightning arrester is required.

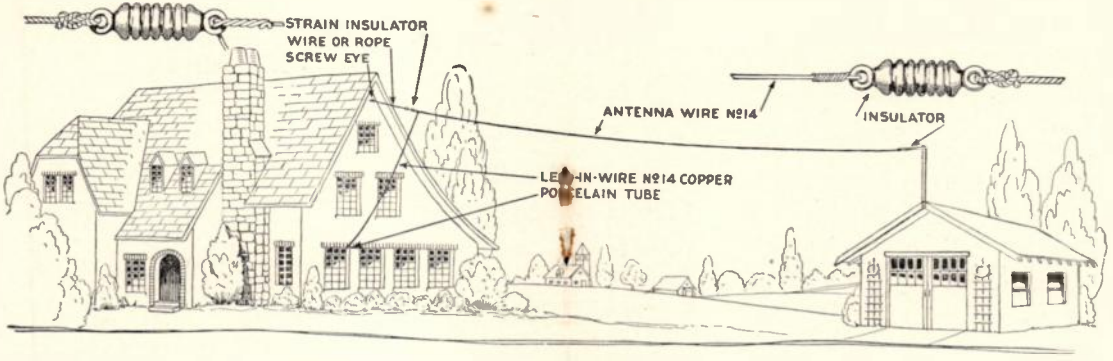
Use of an Antenna Substitute

In order to make use of electric-light wiring in place of an antenna, use only a plug approved by the National Board of Fire Underwriters. When such a plug is used,

If the installation is in a rural district where the water supply system is a private one, this will also furnish an excellent ground. If neither a water supply pipe nor a steam radiator is available, it will be necessary to provide an independent ground, preferably by burying a copper plate about 1-32 inch thick and 2 feet square, or larger, as deep in the moist earth as practicable. To this should be securely soldered the ground wire from the set.

Connecting Batteries

First connect the "A" battery leads in accordance with the proper diagram on page 12 and insert tubes in all five sockets. Turn the "TUBE CONTROL" knob to the right and make sure that all tubes light. Leave the tubes lighted while connecting up "B" batteries in accordance with the proper diagram.

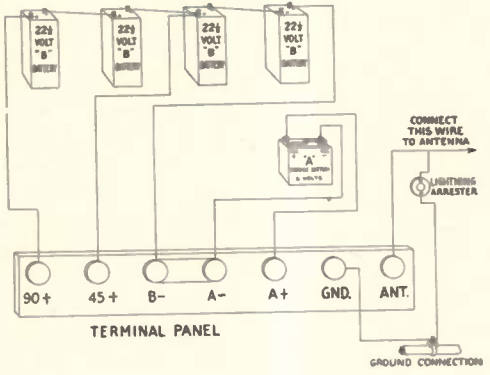


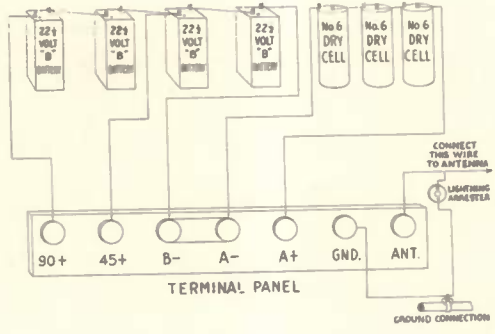
Following are the meanings of the various colors of the wires in the battery cable:

Yellow	A+
Black with Yellow Tracer	A—
Red	90+
Maroon	45+
Black with Red Tracer	B—

Putting the Set Into Service

Having made all the battery connections as directed, connect the antenna and ground wires as shown in the same diagram. Plug the loud speaker into "Stage 2". Most loud speakers will not work satisfactorily unless the connections are in the right direction. Usually one of the cords has a red tracer through its covering, and this should be connected to the + terminal of the plug, that is, the side which makes connection to the "sleeve" of the plug and not to the tip.





there is no danger whatever, but it is dangerous to use a direct connection to these wires, or to use a makeshift device.

A wire is connected from one of the binding posts on the plug to the "ANT." binding post on the receiver.

In order to use the telephone line in place of an antenna, it is simply necessary to place the ordinary desk type telephone on a small sheet of metal—eight or ten inches in diameter. A wire is soldered to this sheet of metal and connected to the "ANT." binding post on the receiver.

For making this connection, as well as for connecting up batteries, make use of the flexible wire mentioned at the end of the list of "EQUIPMENT REQUIRED".

Ground

A good ground connection should be used, no matter what type of antenna is employed. Since most metal piping in every building makes good contact with the ground, it is simply necessary to run a wire to such a pipe. However, no gas pipe may be used as it is a dangerous practice and, in most cases, prohibited. Water pipes and steam heating systems are generally reliable, although the surest ground connection is a cold-water pipe. Make use of the ground clamp, first carefully scraping or sand-papering the pipe until the metal is bright and clean. Make the ground wire as direct and short as possible.

The switch on the front of the panel shuts off the set when it is pushed in and the set is put into operation by simply pulling it out.

DO NOT ATTEMPT TO GROUND THE BATTERIES AS THE "A—" BATTERY POST IS ALREADY CONNECTED TO THE "GROUND" POST IN THIS RECEIVER.

The set will not work unless there is a connection between A— and B— on the terminal panel. When the set leaves the factory there is a small metal strip connecting these two binding posts. A white line on the terminal panel shows where this strip belongs.

If you look inside the receiver from the front the aerial coil is on the right, and on top of this coil you will see a knob with arrow. This is the control which adapts the set to the aerial and consequently its best position depends on the size of the aerial. Set it at the point which gives the best combination of selectivity and volume.

Imagine the arrow as the hour hand on a clock. On very short aerials set the arrow pointing to the back of the set or at "12 o'clock." On very long aerials point the arrow to the right or "3 o'clock." On medium aerials the best position will be found at about "1 o'clock" or "2 o'clock."

If the receiver is not sufficiently selective or does not tune in low-wave stations, point the arrow more nearly to "3 o'clock." If the set is lacking in volume, point the arrow more nearly to "12 o'clock." If volume is still lacking, increase the voltage on the "45 +" binding post to 67 or 90 volts.

Use of Dry Battery Tubes

The rheostat ("TUBE CONTROL") is provided with a stop so that it can be turned only 90 degrees. This is not sufficient for

dry-cell tubes of the UV-199 type when the dry-cells are new. In order to obtain a different 90-degree range on the rheostat, simply loosen the knob set-screw and turn the rheostat finger to the desired position. When the dry-cells are new the knob should be set so that all the resistance is in when the pointer is at "1". When the cells become older a different position of the rheostat is desirable.

If it is desired to use this control through the complete range of the rheostat, simply remove the knob and cut off the stop pin with a pair of cutting pliers.

Troubles

When a radio set refuses to work or does not work satisfactorily, the trouble may come under any one of the following headings:

1. Batteries.
2. Tubes.
3. Antenna.
4. Ground.
5. Outside Interferences.
6. Radio Set.

Unless the cause of the trouble is apparent at once, it should be looked for under these headings in the order named, as experience has shown that batteries and tubes are the sources of practically all troubles encountered in well constructed receiving sets.

IF THE "VOLUME" CONTROL DOES NOT OPERATE PROPERLY, MAKE SURE THAT YOU ARE USING 45 AND NOT 22 VOLTS ON THE "45+" BINDING POST. ALSO MAKE SURE THAT THE THIRD AND FOURTH TUBES FROM THE LEFT ARE GOOD, AND THAT THE "A" BATTERY IS CONNECTED IN THE RIGHT DIRECTION.

When noise is encountered in a receiving set, that is, when it is impossible to "clear up" the music and keep out crackling or other disturbing noises, the source may be outside, such as atmospheric disturbances or leaks from electric light wires. The noise may also be due to defective or old "B" batteries, or a loose connection, either to the batteries or within the set.

The first thing to do is to disconnect the antenna lead from the set. If the noise stops it comes from outside and indicates that the trouble is not in the set or batteries. If the noise continues, the cause may be a defective "B" battery and they should be tested. If this fails to reveal the cause, examine carefully all battery wires, making sure they are not broken and also making sure that all connections are firm and clean.

To test batteries use a voltmeter. In order to test the "A" battery, connect the voltmeter to this battery while tubes are all lighted. If a storage battery is used the meter should read not less than 5.8 volts, and if dry-cells are used, not less than 1 volt each (or 3 volts for the 3 cells in series).

It is important to keep the terminals and battery clips of storage batteries clean and free from corrosion. If they become coated with dirt or corrosion the tubes will fail to receive the proper amount of current and the set is apt to be noisy.

"B" batteries should show not less than 18 volts for each 22½-volt section, or 36 volts for each 45-volt section.

Batteries should always be tested while the set is operating.

If it is necessary to turn the rheostat as far as it will go to the right to make the set operate at all, it is a sign that the "A" battery has too low a voltage.

The set will not work if either "A" or "B" batteries are reversed.

As the second and third tubes from the left (the detector and second radio frequency amplifier) are more critical than any of the others, it is well to try all tubes in these sockets in order to pick out the tubes that will give the best results. To try tubes as amplifiers, plug in at stage No. 1, while a local station is on the air. Tubes may then be compared by trying them, one after

the other, in the first socket. When a tube is found which cuts down the volume it is defective or partly worn out. It is also well to try out the tubes one after another in the center socket (the second radio frequency tube).

It is well to try out all tubes occasionally, especially if there is any doubt as to their performance. Practically all tubes become inactive long before they actually burn out.

A defective ground or aerial connection may be the cause of poor reception. Make sure that the ground connection is clean and firm and that all places where wires are joined together are soldered.

If trouble is experienced due to a continuous howl in the loud speaker it is probably caused by the detector tube (second from the left). The elements inside some tubes are not very rigidly constructed, and these tubes are sensitive to vibrations from the loud speaker. Such tubes are said to be "microphonic". In order to prevent this howl it is important to use a non-microphonic, or, in other words, well constructed tubes, especially in the detector socket. If this trouble is experienced it would be well to try out all tubes in the detector socket and in some cases it may often be necessary to try a different make of tube in order to overcome this difficulty.

Whenever receiving trouble is encountered, remember that there is very little possibility of it being in your Kennedy Receiv-

er. Every part in every Kennedy set is thoroughly tested mechanically and electrically before the set is assembled. After the set is completely assembled it is put through several radio tests besides being given a very thorough visual inspection. There is practically nothing in your set proper to wear out. Consequently, do not come to the conclusion that the trouble is in the set until you have very carefully looked for it in the batteries, tubes, antenna and ground wires and loud speaker, or from outside interference.

Equipment Required

The equipment will depend on the kind of antenna and the kind of tubes to be used. Before deciding on this matter, it is well to read page 4 regarding choice of antenna, and page 5 on the subject of tubes.

Antenna Material:

1. *Outdoor Antenna*—60 to 100 feet of No. 14 Bare Hard Drawn Copper, or Copper Clad Steel Wire, or equivalent.
   Two or more Strain Insulators.
   One Lead-inTube or Insulator.
   One Lightning Arrester.
2. *Indoor Antenna*—50 to 100 feet Copper Wire, any size from No. 16 to No. 30, insulated. "Annunciator" Wire or fixture cord is good.

3. *Substitute for Antenna*—"Ducon" or "Antenella" Plug, or equivalent.

Tubes:

One of following items:

1. 5 "UV-201A" or 5 "C-301A", or equivalent tubes.
2. 5 "UV-199" or 5 "C-299", or equivalent, tubes with 5 Socket Adapters for same.

"A" Battery:

Select either Item 1 or Item 2, according to choice of tubes.

1. One 6-volt Storage Battery. Capacity 60 to 120 ampere hours. A battery charger for same is recommended.
2. Three "No. 6" Dry Cells.

"B" Battery:

Four 22½-volt large size, upright, "B" Batteries, such as Burgess, Eveready, Ray-O-Vac, or equivalent.

Other Equipment:

One pair Head Telephones with Plug (recommended).

One Loud Speaker with Plug.

One Ground Clamp.

Twenty to fifty feet No. 16 or No. 18 fixture cord, or other well insulated stranded copper wire for making connections.

Warranty

"The Colin B. Kennedy Company warrants all radio apparatus of its manufacture to be free from defects in material and workmanship under normal use and service, and for a period of ninety (90) days after delivery to the original purchaser agrees to make good at its factory any part, or parts, which upon examination by it shall prove defective, provided such part or complete apparatus is delivered to its factory with transportation charges prepaid; this warranty being expressly in lieu of all other warranties, either expressed or implied.

"This warranty shall not apply to any apparatus which shall have been repaired or altered outside of our factory, nor which upon examination, shall be found to have been subjected to abuse, misuse or accident.

"The Colin B. Kennedy Company reserves the right to make changes or improvements in its apparatus at any time without thereby incurring any obligation to install same in apparatus previously sold."

Printed in U. S. A.

Form KE 21

KENNEDY

The Royalty of Radio

Booklet of Instructions

for

Installing and Operating

KENNEDY

Model 26 Chassis
Screen Grid
Receivers

COLIN B. KENNEDY
CORPORATION
South Bend, Indiana

OUR CREED

IT has been the honest endeavor of those responsible for the production of this receiver to contribute to the satisfaction and pleasure of you, its ultimate owner.

In the last analysis, we are selling you service and this instrument is simply the medium through which it is rendered. If, in your judgment, we have not fulfilled our purpose, we trust that you will tell us about it.

We maintain an adequate Service Department that is ever desirous of helping you obtain the maximum enjoyment from your Kennedy set.

We look back with pride on nearly seventeen years of quality radio building and with a keen sense of obligation to those, who, like yourself, have made our business possible. We have not permitted any useless extravagances, nor, on the other hand, have we reduced the safety factor to make immediate or questionable savings. In short, we have not sacrificed QUALITY upon the altar of PRICE.

COLIN B. KENNEDY CORPORATION

South Bend, Indiana

THIS BOOKLET will assist the set owner in obtaining the utmost enjoyment and service from his Kennedy receiver, and to maintain that peak of operating efficiency to which each receiver is painstakingly adjusted at the factory.

Each Kennedy receiver is carefully constructed. From the selection of raw materials to the finishing touch on each cabinet, the chief objective has been to build a radio set that would give the best possible performance with the least amount of servicing.

Every feature of the Kennedy receiver reflects the broad, successful experience of Colin B. Kennedy and his twenty years of achievement in the field of radio science. Kennedy receivers, always known as "The Royalty of Radio", are the choice of those who know and love the finer things of life.

The Kennedy Model 26 chassis is composed of two units. This feature facilitates precision production and permits flexibility in adapting it to cabinetry design. Dual-unit construction also offers higher electrical efficiency, double shielding of vital parts and easier servicing.

Eight tubes, including rectifier tube, a total of eight, are employed. There are four tuned circuits; a three-stage tuned screen grid radio frequency amplifier, a tuned power detector, a resistance coupled first audio stage, and a transformer coupled push-pull audio output. The circuits have been combined and balanced in accordance with the best and latest practices in radio.

All Kennedy apparatus and circuits are licensed and fully protected.

The Kennedy Model 26 chassis is designed for radio broadcast programs transmitted on 200 to 500 meter wave lengths (or 1500 to 550 kilocycles.) It is entirely A. C. electrically operated, the tubes using "raw" alternating current as a filament supply. The receiver can be attached to any outlet supplying 110 to 120 volts, 60 cycle, alternating current.

A good ground connection is very important. Use wire of large size but as short as practical. Attach the ground wire to a cold water pipe as near as possible to the point where the pipe enters the ground. Steam and hot water radiators are also often satisfactory. Do not use gas pipes for radio ground connections.

Because of the extremely high amplification of the Model 26 chassis, a short antenna is recommended. A length, including lead-in, of 50 to 75 feet is ample. It should be well insulated its entire length. Frequently a wire strung above an attic or around a room is sufficient. Satisfactory reception is some times obtained without an antenna by inserting ground wire in antenna binding post, instead of the ground binding post.

Antennas should, when possible, be strung at right angles to power, light and telephone lines. Avoid hanging aerials over telephone or light wires, or fastening them to telegraph poles.

It is very important that aerial, ground and speaker wires make perfect electrical connections to their proper terminals. Each terminal

is plainly marked and shown in the illustrations in this booklet.

Tube sockets are marked to indicate the proper tubes to use. Eight tubes, plus a regulator tube if desired, are used and are as follows:

3—UY224 or C324	2—UX245 or CX345
2—UY227 or C327	1—UX280 or CX380

Proper tube positions are indicated by illustrations in this booklet.

On the radio frequency, or tuner unit, the three screen grid tubes and the detector tube are covered by a shield, removable by loosening thumb-nut at rear, raising shield, at the same time pulling it slightly toward the rear. When set is operating, the shield must be firmly in place to insure good electrical contact with the base and to prevent mechanical rattles.

In locations where the line voltage is consistently high, that is, 125 volts or more, remove the metal plug containing A.C. line fuse and replace with a "Kennedy line voltage regulator tube." These tubes may be obtained from any authorized dealer at slight cost.

Should the set go "electrically dead" at any time, pull out metal plug containing one ampere line fuse, remove fiber cover and inspect fuse for "blowout." This fuse is protection against sudden high line voltage surges, short circuited or defective tubes, and electrical breakdowns within the receiver. All tubes should be tested and inspected, par-

KENNEDY

Model 26

Chassis

Front View

Note tube positions, controls and one-piece shield for tubes in tuning unit.

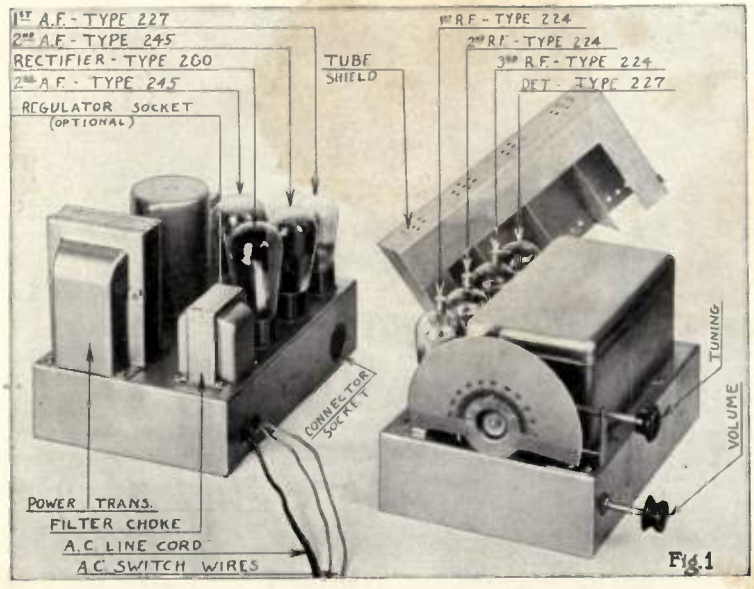


Fig. 1

KENNEDY
The Royalty of Radio

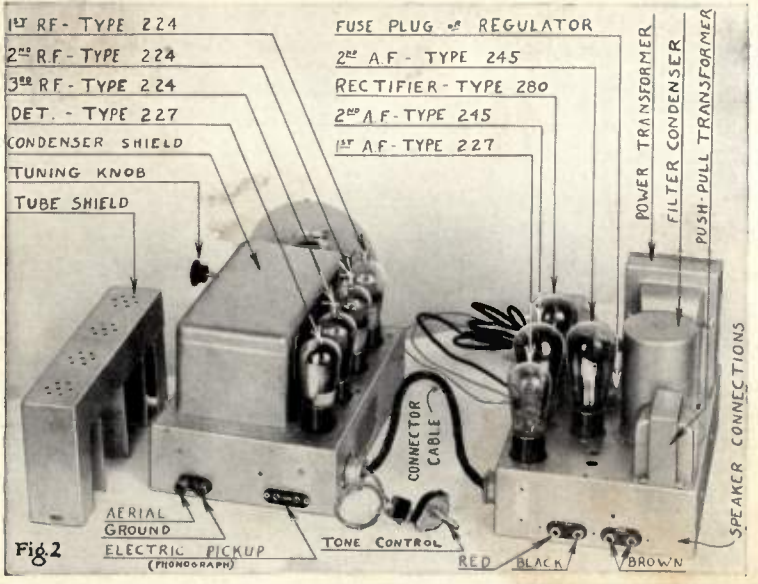


Fig 2

KENNEDY

Model 26

Chassis

Rear view

Note antenna, ground, speaker and phono-pick-up cord terminals.

KENNEDY
The Royalty of Radio

ticularly the rectifier, (UX280 or CX380) before replacing with a new fuse.

The speaker for the Model 26 chassis has a four wire cord with two BROWN wires, a BLACK and a RED. Insert the tips of the two brown wires in the two brown terminals marked "SPKR". The red and black wires carry current to energize the field of the electro-dynamic speaker. This energy is supplied by the receiver which utilizes the speaker field as a portion of its filter system in smoothing out the A.C. hum. The RED wire goes to the RED FIELD TERMINAL (+) and the BLACK wire to the BLACK TERMINAL (—). No speakers should be used with this receiver except those specified by authorized Kennedy dealers.

Speaker field resistance—2250 ohms.

Speaker transformer is center tapped.

A humming, ringing noise in the speaker usually indicates a microphonic detector tube (one susceptible to vibration and jars). This is easily remedied by switching the detector tube and the first audio tube (both are type 227) around, or by trying a new tube in the detector socket.

Noisy reception is usually due to external disturbances, though it is possible that speaker, aerial, or ground connections may be faulty or that one or more tubes are defective. If all connections and tubes are known to be good, disconnect antenna wire, and note if noises vanish. If produced within receiver, they will naturally continue. The only remedy for external reception disturbances is, of

course, at the source. Your local power company should be notified.

Excessive hum may come from some external source, and, if so, will cease when antenna is disconnected. In rare instances it may be the A.C. power line itself. Defective tubes also cause hum.

Tuning: The four tuned circuits (RF amplification) are controlled by a single tuning knob. The station dial reads directly in kilocycles, making the selection of stations from "call books" or programs extremely simple. Radio stations broadcast on electrical wave frequencies assigned by the government and designated by kilocycles. Once a station is found, it will always tune in at the same reading, providing, its wave length (or frequency) is not changed.

Volume: A single knob controls a double-unit volume control. This permits smooth, continuous variation in loudness from absolute silence to maximum capability of receiver, under either normal or adverse conditions, without impairing tone quality. It does not control the volume when using an electrical pickup for reproduction of phonograph records. Electrical pickups are supplied with their own volume controls.

Phonograph Attachment: Any reliable make of phonograph pickup may be used with any Kennedy receiver not already equipped for record reproduction. The cord-tips of the pick-up plug into the two tip-jacks marked "PHONO" and may be left permanently connected. In order to use phonograph pick-up on this model receiver, turn dial as far as possible past 1500 kilocycle mark.

Tone Control: All Kennedy Model 26 chassis are equipped with SELECTONE controls. At one extreme, the treble is highly emphasized with moderate bass, or low notes. The other extreme gives heavy

bass or low notes, with the treble subdued. Degrees of tone between these extremes are instantly available.

Power Switch: The power switch controls all power, the receiver being left connected to the outlet at all times. When first turning set "ON" a wait of from 20 to 40 seconds is necessary for the A.C. tubes to "warm up" to operating temperatures.

Dial Lamp: The dial lamp used is a 2½ to 3 volt miniature screw base bulb, such as Mazda 41, .0.45 ampere.

SPECIFICATIONS (Chassis Model 26)

Chassis—Best grade cold rolled auto body steel. Bases drawn, formed, spot-welded and heavily copper plated.

Circuit—Kennedy design and layout. Four tuned stages, three tuned screen grid R.F., tuned power detector, two staged audio with push-pull 245 power output. Large electro-dynamic speaker.

Shielding—Complete shielding in accordance with newest engineering practices. Aluminum and copper shielding. All steel parts copper plated. Wide shield spacing for maximum efficiency. Perfect spacing of coils within shields.

Condensers—Ruggedly built 4-gang tuning condensers, gang reamed and faced for perfect alignment, rigidity and permanence.

Audio—Transformers with heavy cores of special alloy transformer iron and high inductance windings. Fidelity of reproduction and natural Life-Tone are stressed.

Tone—SELECTONE control smoothly variable from low bass to treble to suit the most critical ear.

Selectivity—Exceptional selectivity due to use of best materials, simple wiring, accuracy of assembly and testing. Full tone qualities and sensitivity retained on most distant stations.

Control—Single dial smooth vernier control—no "back lash". Dial calibrated in kilocycles. Individual knobs for volume and tone. No distortion at any volume. Phono-radio switch provided.

All Electric—No batteries required. All power from A.C. outlet, controlled by single power switch.

GUARANTEE

"Colin B. Kennedy Corporation warrants all radio apparatus of its manufacture to be free from defects in material and workmanship under normal use and service, and for a period of ninety (90) days after delivery to the original purchaser agrees to make good at its factory any part, or parts, which upon examination by it shall prove defective, provided authority in writing and return tag is first obtained from the manufacturer to return such part or complete apparatus to its factory with transportation charges prepaid; this warranty being expressly in lieu of all other warranties, either expressed or implied.

"This warranty shall not apply to any apparatus which shall have been repaired or altered outside of our factory, nor which upon examination, shall be found to have been subjected to abuse, misuse or accident.

"Colin B. Kennedy Corporation reserves the right to make any changes or improvements in its apparatus at any time without thereby incurring any obligation to install same in apparatus previously sold."

Licensed only for radio, amateur, experimental and broadcast reception.

KENNEDY

The Royalty of Radio

Booklet of Instructions

for

Installing and Operating

KENNEDY

Model 26 Chassis
Screen Grid
Receivers

COLIN B. KENNEDY
CORPORATION

South Bend, Indiana

RMA

OUR CREED

IT has been the honest endeavor of those responsible for the production of this receiver to contribute to the satisfaction and pleasure of you, its ultimate owner.

In the last analysis, we are selling you service and this instrument is simply the medium through which it is rendered. If, in your judgment, we have not fulfilled our purpose, we trust that you will tell us about it.

We maintain an adequate Service Department that is ever desirous of helping you obtain the maximum enjoyment from your Kennedy set.

We look back with pride on nearly seventeen years of quality radio building and with a keen sense of obligation to those, who, like yourself, have made our business possible. We have not permitted any useless extravagances, nor, on the other hand, have we reduced the safety factor to make immediate or questionable savings. In short, we have not sacrificed QUALITY upon the altar of PRICE.

COLIN B. KENNEDY CORPORATION

South Bend, Indiana

THIS BOOKLET will assist the set owner in obtaining the utmost enjoyment and service from his Kennedy receiver, and to maintain that peak of operating efficiency to which each receiver is painstakingly adjusted at the factory.

Each Kennedy receiver is carefully constructed. From the selection of raw materials to the finishing touch on each cabinet, the chief objective has been to build a radio set that would give the best possible performance with the least amount of servicing.

Every feature of the Kennedy receiver reflects the broad, successful experience of Colin B. Kennedy and his twenty years of achievement in the field of radio science. Kennedy receivers, always known as "The Royalty of Radio", are the choice of those who know and love the finer things of life.

The Kennedy Model 26 chassis is composed of two units. This feature facilitates precision production and permits flexibility in adapting it to cabinetry design. Dual-unit construction also offers higher electrical efficiency, double shielding of vital parts and easier servicing.

Eight tubes, including rectifier tube, a total of eight, are employed. There are four tuned circuits; a three-stage tuned screen grid radio frequency amplifier, a tuned power detector, a resistance coupled first audio stage, and a transformer coupled push-pull audio output. The circuits have been combined and balanced in accordance with the best and latest practices in radio.

All Kennedy apparatus and circuits are licensed and fully protected.

The Kennedy Model 26 chassis is designed for radio broadcast programs transmitted on 200 to 500 meter wave lengths (or 1500 to 550 kilocycles.) It is entirely A. C. electrically operated, the tubes using "raw" alternating current as a filament supply. The receiver can be attached to any outlet supplying 110 to 120 volts, 60 cycle, alternating current.

A good ground connection is very important. Use wire of large size but as short as practical. Attach the ground wire to a cold water pipe as near as possible to the point where the pipe enters the ground. Steam and hot water radiators are also often satisfactory. Do not use gas pipes for radio ground connections.

Because of the extremely high amplification of the Model 26 chassis, a short antenna is recommended. A length, including lead-in, of 50 to 75 feet is ample. It should be well insulated its entire length. Frequently a wire strung above an attic or around a room is sufficient. Satisfactory reception is some times obtained without an antenna by inserting ground wire in antenna binding post, instead of the ground binding post.

Antennas should, when possible, be strung at right angles to power, light and telephone lines. Avoid hanging aerials over telephone or light wires, or fastening them to telegraph poles.

It is very important that aerial, ground and speaker wires make perfect electrical connections to their proper terminals. Each terminal

is plainly marked and shown in the illustrations in this booklet.

Tube sockets are marked to indicate the proper tubes to use. Eight tubes, plus a regulator tube if desired, are used and are as follows:

3—UY224 or C324	2—UX245 or CX345
2—UY227 or C327	1—UX280 or CX380

Proper tube positions are indicated by illustrations in this booklet.

On the radio frequency, or tuner unit, the three screen grid tubes and the detector tube are covered by a shield, removable by loosening thumb-nut at rear, raising shield, at the same time pulling it slightly toward the rear. When set is operating, the shield must be firmly in place to insure good electrical contact with the base and to prevent mechanical rattles.

In locations where the line voltage is consistently high, that is, 125 volts or more, remove the metal plug containing A.C. line fuse and replace with a "Kennedy line voltage regulator tube." These tubes may be obtained from any authorized dealer at slight cost.

Should the set go "electrically dead" at any time, pull out metal plug containing one ampere line fuse, remove fiber cover and inspect fuse for "blowout." This fuse is protection against sudden high line voltage surges, short circuited or defective tubes, and electrical breakdowns within the receiver. All tubes should be tested and inspected, par-

KENNEDY

Model 26

Chassis

Front View

Note tube positions, controls and one-piece shield for tubes in tuning unit.

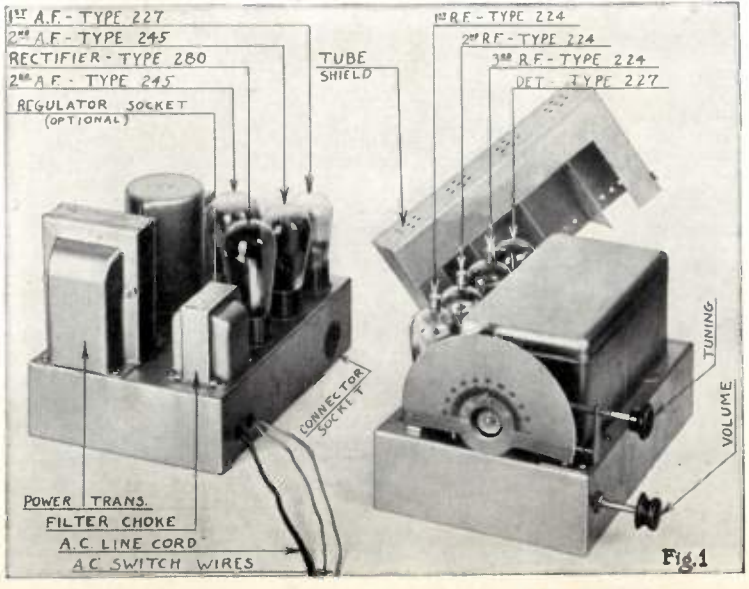


Fig.1

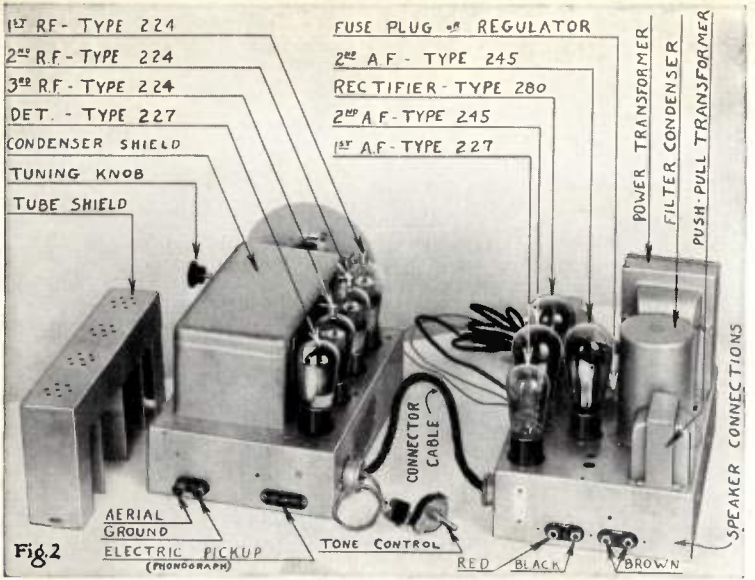


Fig.2

KENNEDY

Model 26

Chassis

Rear view

Note antenna, ground, speaker and phono-pick-up cord terminals.

KENNEDY
The Royalty of Radio

ticularly the rectifier, (UX280 or CX380) before replacing with a new fuse.

The speaker for the Model 26 chassis has a four wire cord with two BROWN wires, a BLACK and a RED. Insert the tips of the two brown wires in the two brown terminals marked "SPKR". The red and black wires carry current to energize the field of the electro-dynamic speaker. This energy is supplied by the receiver which utilizes the speaker field as a portion of its filter system in smoothing out the A.C. hum. The RED wire goes to the RED FIELD TERMINAL (+) and the BLACK wire to the BLACK TERMINAL (—). No speakers should be used with this receiver except those specified by authorized Kennedy dealers.

Speaker field resistance—2250 ohms.

Speaker transformer is center tapped.

A humming, ringing noise in the speaker usually indicates a microphonic detector tube (one susceptible to vibration and jars). This is easily remedied by switching the detector tube and the first audio tube (both are type 227) around, or by trying a new tube in the detector socket.

Noisy reception is usually due to external disturbances, though it is possible that speaker, aerial, or ground connections may be faulty or that one or more tubes are defective. If all connections and tubes are known to be good, disconnect antenna wire, and note if noises vanish. If produced within receiver, they will naturally continue. The only remedy for external reception disturbances is, of

course, at the source. Your local power company should be notified.

Excessive hum may come from some external source, and, if so, will cease when antenna is disconnected. In rare instances it may be the A.C. power line itself. Defective tubes also cause hum.

Tuning: The four tuned circuits (RF amplification) are controlled by a single tuning knob. The station dial reads directly in kilocycles, making the selection of stations from "call books" or programs extremely simple. Radio stations broadcast on electrical wave frequencies assigned by the government and designated by kilocycles. Once a station is found, it will always tune in at the same reading, providing, its wave length (or frequency) is not changed.

Volume: A single knob controls a double-unit volume control. This permits smooth, continuous variation in loudness from absolute silence to maximum capability of receiver, under either normal or adverse conditions, without impairing tone quality. It does not control the volume when using an electrical pickup for reproduction of phonograph records. Electrical pickups are supplied with their own volume controls.

Phonograph Attachment: Any reliable make of phonograph pickup may be used with any Kennedy receiver not already equipped for record reproduction. The cord-tips of the pick-up plug into the two-tip-jacks marked "PHONO" and may be left permanently connected. In order to use phonograph pick-up on this model receiver, turn dial as far as possible past 1500 kilocycle mark.

Tone Control: All Kennedy Model 26 chassis are equipped with SELECTONE controls. At one extreme, the treble is highly emphasized with moderate bass, or low notes. The other extreme gives heavy

bass or low notes, with the treble subdued. Degrees of tone between these extremes are instantly available.

Power Switch: The power switch controls all power, the receiver being left connected to the outlet at all times. When first turning set "ON" a wait of from 20 to 40 seconds is necessary for the A.C. tubes to "warm up" to operating temperatures.

Dial Lamp: The dial lamp used is a 2½ to 3 volt miniature screw base bulb, such as Mazda 41, .0.45 ampere.

SPECIFICATIONS (Chassis Model 26)

Chassis—Best grade cold rolled auto body steel. Bases drawn, formed, spot-welded and heavily copper plated.

Circuit—Kennedy design and layout. Four tuned stages, three tuned screen grid R.F., tuned power detector, two staged audio with push-pull 245 power output. Large electro-dynamic speaker.

Shielding—Complete shielding in accordance with newest engineering practices. Aluminum and copper shielding. All steel parts copper plated. Wide shield spacing for maximum efficiency. Perfect spacing of coils within shields.

Condensers—Ruggedly built 4-gang tuning condensers, gang reamed and faced for perfect alignment, rigidity and permanence.

Audio—Transformers with heavy cores of special alloy transformer iron and high inductance windings. Fidelity of reproduction and natural Life-Tone are stressed.

Tone—SELECTONE control smoothly variable from low bass to treble to suit the most critical ear.

Selectivity—Exceptional selectivity due to use of best materials, simple wiring, accuracy of assembly and testing. Full tone qualities and sensitivity retained on most distant stations.

Control—Single dial smooth vernier control—no "back lash". Dial calibrated in kilocycles. Individual knobs for volume and tone. No distortion at any volume. Phono-radio switch provided.

All Electric—No batteries required. All power from A.C. outlet, controlled by single power switch.

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Licensed only for radio, amateur, experimental and broadcast reception.

KENNEDY » » »

YOUR preferences are often different from those of your neighbor. The type of home he likes may not appeal to you—tastes differ. So it is with radio. There has never been a "best" set for everyone. Now KENNEDY has built a line of receiving sets that include many designs and have a wide range of prices. Among these models there is one particular set, the design and price of which will especially appeal to you.

All KENNEDY models, however, have a common characteristic—they are designed and built for those who know and love the finer things of life. Perhaps you belong to this group!

KENNEDY brings you Life Tone reproduction—whether you prefer Opera or Jazz makes no difference—

» ***The Royalty of Radio***

Life Tone reception is assured. Greater enjoyment in true tone quality is now yours with SELECTONE, a new KENNEDY feature which enables you to select the particular tone, from deep bass to high treble, that best suits your ear.

And now KENNEDY brings you a new wonder—the outstanding radio achievement of the year—a long and short wave set, enabling you to hear both American and Foreign broadcasting stations in your home. Many other features of KENNEDY sets will also interest you. See KENNEDY, hear KENNEDY, and judge for yourself whether it is deserving of its title, The Royalty of Radio.

FEATURES OF THE KENNEDY CHASSIS

Screen grid circuit employing a total of eight tubes. High, uniform amplification. Power detection.

Low cost, all electric operation. Less than one cent per hour. Years of service because of highest quality materials. Filter condensers puncture proof, self healing.

Rapid installation—simple connections—efficient results. Double unit chassis of cold rolled auto body steel—drawn, formed, spot-welded and copper plated. Aluminum and steel shielding—all steel parts copper plated.

Illuminated ready-vision dial, calibrated in kilocycles.

Smoothly variable volume control from zero to maximum.

High selectivity—ability to select stations.

Extreme sensitivity—power on weak distant stations.

"LIFE TONE"—Fidelity of reproduction.

Voltage variations—operates satisfactorily under wide variations in line voltage. Regulator tube optional.

Phonograph switch—instant change from radio to phonograph is provided.

Readily accessible—easy to service, no expensive adjustments.

Kennedy design follows latest and best practices of radio science, and is the result of two decades of experience in building radio instruments.

COLIN B. KENNEDY CORPORATION
South Bend, Indiana

Litho'd in U. S. A. Form No. A115

PEERLESS PRESS, SOUTH BEND, IND.

The Royalty of Radio

KENNEDY

ROYALETTE Model 1030

A radio of beauty and quality at an unusually low price. Handsome butt walnut panels, with contrasting over-lays, frame the center panel in an artistic design. In every detail the ROYALETTE is worthy of its more expensive companions.

EQUIPMENT

New ROYALETTE one-piece chassis, 8 tubes, large electro-dynamic speaker for Life Tone reproduction, completely shielded throughout. Furnished in straight radio only, with tip jacks and switch for phonograph pick up. Price $114.50, less tubes.

KENNEDY Model 632

Fine cabinetry and expert craftsmanship are features of this set. Graceful lines and a center panel of beautifully cross-fired Oriental walnut make it truly a distinctive model. It will appeal to those who desire a fine radio at a moderate price.

EQUIPMENT

New KENNEDY one-piece chassis, 8 tubes, large electro-dynamic speaker for Life Tone reproduction, SELECTONE control, completely shielded throughout. Furnished in straight radio only, with tip jacks and switch for phonograph pick up. Price $139.00, less tubes.

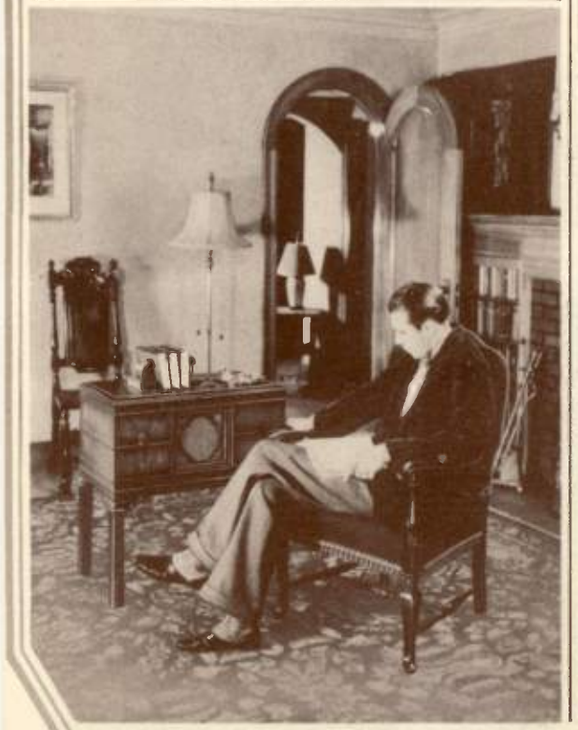
KENNEDY Royal Model 426

The Arm Chair Model is an attractive, useful piece of furniture, built around a receiving set. Pull it up to your favorite chair—put your magazines, books and smokes on its inviting top—and settle down to real radio enjoyment. Tuning controls are right at your finger tips with station dial easily visible. Made of finest quality American walnut, front and back finished alike, with all wires running up through leg.

EQUIPMENT

New KENNEDY Royal dual chassis employing 8 tubes, extra large electro-dynamic speaker for Life Tone reproduction, SELECTONE control, tapered double volume control, automatic line voltage regulator, completely shielded throughout.

Furnished in straight radio only, with tip jacks and switch for phonograph pick up. Price $159.00, less tubes.



KENNEDY Royal Model 526

A radio for those who have the true appreciation of lovely things in the home. This design typifies a new trend in cabinetry and will harmonize with every type of home decoration. A center panel of beautiful butt walnut, between gracefully fluted and curved panels, is further set off to advantage by fine carvings. A KENNEDY design that is destined to become one of the most popular of the season.

EQUIPMENT

New KENNEDY Royal dual chassis employing 8 tubes, extra large electro-dynamic speaker for Life Tone reproduction, SELECTONE control, tapered double volume control, automatic line voltage regulator, completely shielded throughout.

Furnished in straight radio only, with tip jacks and switch for phonograph pick up. Price $169.00, less tubes.

KENNEDY Royal Model 826

In this model KENNEDY has established a new appeal—the KENNEDY long and short wave set, which brings the programs of both American and Foreign stations to the home. The cabinet is unusually attractive in beauty of line and perfectly matched veneers, with exceptionally fine butt walnut side panels and a striking cross grain center.

EQUIPMENT

New KENNEDY Royal dual chassis employing 8 tubes, short wave chassis employing 3 tubes, extra large electro-dynamic speaker for Life Tone reproduction, SELECTONE control, tapered double volume control, automatic line voltage regulator, completely shielded throughout.

Furnished in straight long wave radio, price $199.00; long wave and phonograph $242.00; both long and short wave, price $252.00; long wave with automatic phonograph, price $304.00. All prices less tubes.

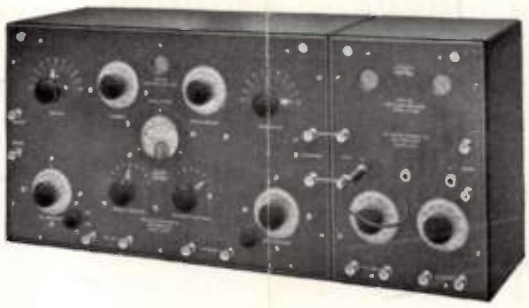
KENNEDY Royal Model 726

This beautiful model is significant of everything symbolized by "The Royalty of Radio." It upholds every KENNEDY tradition. Its exquisitely grained butt walnut side panels and hand-carved quarter French doors reflect an elegance that is obtained only by combining the finest veneers and craftsmanship with a design of distinction. Every true lover of fine furniture will recognize this model as a masterpiece—the most beautiful radio in America.

EQUIPMENT

New KENNEDY Royal dual chassis employing 8 tubes, extra large electro-dynamic speaker for Life Tone reproduction, SELECTONE control, tapered double volume control, automatic line voltage regulator, completely shielded throughout.

Furnished in straight radio, price $229.00; radio with remote control, price $285.00; radio with automatic phonograph, price $390.00. All prices less tubes.



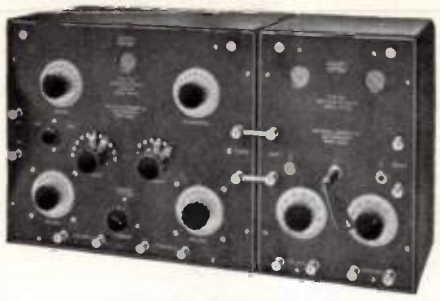
KENNEDY

For All Wave Lengths—Type 110 Universal Regenerative Receiver

covers the entire field of radio. Tuning range 200 to 25,000 meters includes all wave-lengths in practical use today. Will detect, regenerate or oscillate, as desired, at high efficiency on any wave-length. Inductively coupled circuits assure maximum means of tuning out interference. Can be efficiently used with vacuum tubes of all standard types. Tube is mounted inside cabinet with screened window affording convenient observation. Weston voltmeter facilitates correct vacuum tube regulation. Variable condensers are of balanced construction with perfectly aligned, accurately spaced, heavy aluminum plates. Secondary condenser has vernier adjustment for close tuning. Special KENNEDY pyramid bank-wound inductance coils. Genuine walnut cabinet, highly polished. Dials are of heavy brass, beveled, finished in satin silver and inset in panel. KENNEDY type fluted Bakelite knobs.

Price, including Amplifier, $370
Receiver only, $285

For General Service



KENNEDY

Type 220 Intermediate-Wave Regenerative Receiver

TUNING range 200 to 3,200 meters. Inductively coupled circuits assure high selectivity and efficiency. Mounted in handsome walnut cabinet. Silvered dials. Bakelite knobs. Special KENNEDY pyramid bank-wound inductance coils. A splendid set for receiving music, voices, news, market reports and all general service.

Aside from the entertainment afforded by listening to the news, music, lectures, stories, etc. sent out by the broadcasting stations, the radio operator who owns a set with a tuning range beyond the ordinary 360-400-meter wave-lengths used for broadcasting, finds it an exciting pleasure to tune into other stations using the longer wave-lengths. The purchase of a KENNEDY Type 110 Regenerative Receiver shown on the above page, or of a KENNEDY Type 220 Regenerative Receiver, here illustrated, enables you to add the fascination of this pastime to your enjoyment of the regularly broadcasted entertainment features.

Price, including Amplifier, $235
Receiver only, $150

For Broadcasting Service

KENNEDY

Type 281 Regenerative Receiver

TUNING range, 175 to 900 meters. Variable inductively coupled circuits insuring highest selectivity reduce interference to minimum. Arrangement provides a complete receiver including vacuum tube control unit in one cabinet. Screened window in panel permits convenient observation of tube.

Variable condensers are of balanced construction with perfectly aligned, accurately spaced, heavy aluminum plates.

Special KENNEDY pyramid bank-wound inductance coils.

Designed throughout in accordance with the most advanced radio engineering standards.

Solid mahogany cabinet, hand-rubbed finish.

Highly efficient for receiving from broadcasting and amateur stations; an ideal set for home entertainment.

Price, including Amplifier, $145
Receiver only, $90