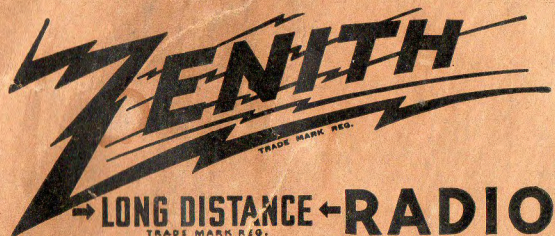


OPERATING INSTRUCTIONS



12-Tube Receiver

AC Chassis No. 1204 and 1204A

*America's Most Copied Radio
—Again A Year Ahead*

ZENITH RADIO CORPORATION
CHICAGO, ILL., U. S. A.

Sincerely we hope—

that you will enjoy to the full the entertainment possibilities of your new 1938 Zenith with its many year-ahead features.

Should you be as delighted with its beautiful tone and fine performance as we are confident you will be, we trust that you will tell your friends and refer them to the Zenith dealer from whom you bought this set. He will be more than glad to show them a wide selection of Zeniths—yet without urging them to purchase.

We also invite your attention to the desirability of insisting on Zenith quality in tubes and accessories for your set. Only by so doing can you be completely sure of obtaining Zenith perfection of performance.

Zenith Radio Corporation

OPERATING INSTRUCTIONS

12-Tube A.C. receiver — Chassis No. 1204-1204A

General

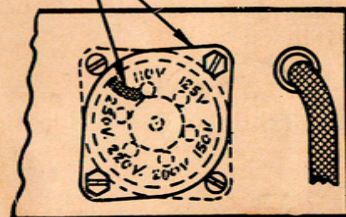
This receiver is a modern 12-tube superheterodyne with a tuning range covering all frequencies between 540 kilocycles and 18,400 kilocycles. This range is divided into three bands as explained under "Operation."

Chassis 1204 is designed to operate on 115 volts 60 cycle alternating current (A.C.) only, and should never be connected to a power line of any other voltage or frequency. **UNDER NO CIRCUMSTANCES SHOULD THIS RECEIVER BE CONNECTED TO DIRECT CURRENT (D.C.)**

Chassis 1204-A ONLY is designed to operate on 25 to 100 cycle alternating current (A.C.) and may be adjusted for various line voltages by means of the voltage taps on the rear of the chassis. The flexible lead is placed in the contact corresponding to the line voltage on which the receiver is to be used. (See diagram below.)

Chassis 1204-A is also equipped with terminals, and a switch (on rear of chassis) for use of a phonograph pick-up. A high impedance phonograph pick-up will be satisfactory. On phonograph combination models, the phonograph switch is mounted on the turn-table base. See separate instructions for operation of phonograph.

**REMOVE CELLULOID COVER
TO CHANGE VOLTAGE TAP.**



6H6G	Diode Det. A.V.C.
6J5G	1st Audio Amp.
6J5G	2nd Audio Amp.
6J5G	Phase Inverter
6V6G}	Push-Pull Output
6V6G}	
5Y4G	Rectifier
6T5	Tuning Indicator

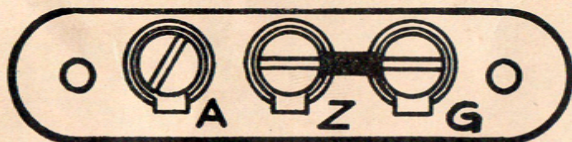
Antenna and Ground

Any radio receiver depends largely on the antenna for best efficiency, and therefore it should be given careful consideration. An antenna of from 30 to 60 feet in length placed as high outside the building as possible will give good all round results. Too long an antenna may cause interference between stations, while too small an antenna will result in poor reception from the weaker stations. Never have your receiver connected to an old antenna without a thorough examination first being made to determine its condition, as the connections may be broken or corroded and cause very unsatisfactory service.

For finest possible reception and greatest noise reduction on all bands, a ZENITH DOUBLET ANTENNA should be used. A special doublet antenna tuning circuit is already incorporated in the receiver which makes its use still more advantageous. Owners are warned not to employ antennas of other makes as they will not properly match the receiver requirements. The ZENITH DOUBLET is the only antenna designed especially for ZENITH receivers. The diagram simulates the antenna connecting strip on the receiver, and should be used as follows:

Important

(Antenna Connector Strip on Rear of Chassis)



Connect ordinary single wire antenna to A. Jumper wire placed between Z and G. (Shipped from factory in this manner.)

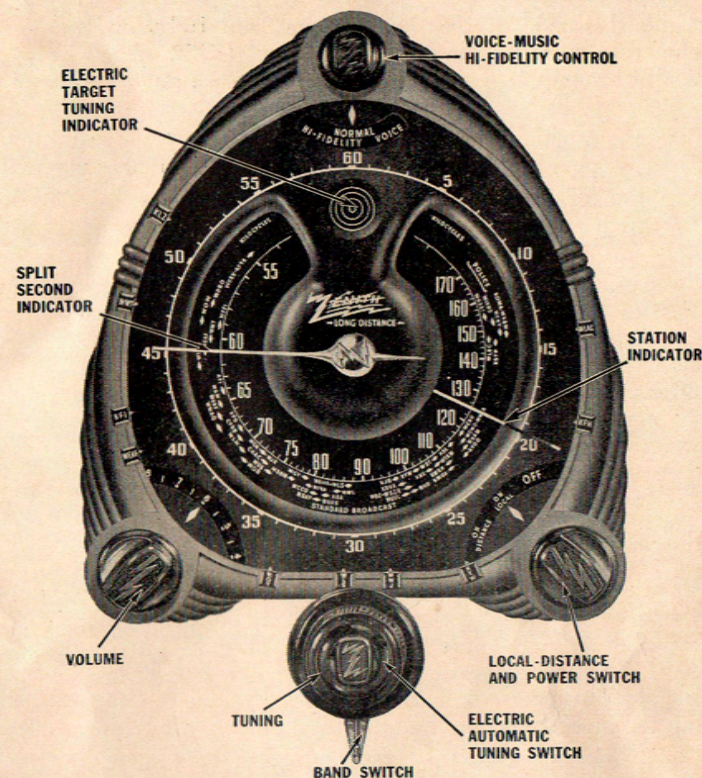
When using a ZENITH DOUBLET ANTENNA, remove jumper wire between Z and G and attach doublet lead-in to A and Z.

When using a single wire antenna a good ground connection is essential. It should be connected to terminal G and may consist of a good electrical connection to a cold water pipe or radiator, or a pipe driven several feet into the ground in a moist spot. The pipe should be scraped or filed until clean, and a good electrical connection made to it.

A ground is not always advantageous when using the doublet antenna, therefore, the receiver should be tested both with or without a ground connection for best results.

Operation

The position and name of each control knob is shown in photo on page 3. Their use is as follows:



POWER SWITCH AND SENSITIVITY CONTROL: The lower right hand knob turns on the power and adjusts the sensitivity of the set for local or distant reception. To turn the receiver on, revolve this control to the right and try the set on a LOCAL OR DISTANT position, depending on the reception or sensitivity desired. The DISTANT setting allows the receiver to operate at its greatest sensitivity, and should be used when tuning foreign or long distance American stations. The LOCAL position lowers the sensitivity for noise reduction, and is only used when tuning stations within a few hundred miles.

VOLUME: The lower left control regulates the volume and power output of the receiver. This control is calibrated for future reference when again tuning the set for a pre-determined volume level.

BAND SWITCH: Tuning is divided into three bands, represented by three separate and distinct dial scales which automatically come into place on the "Robot" dial as the band switch is rotated. The scales are marked as follows: STANDARD BROADCAST; FOREIGN; POLICE. These identifications correspond to the listing on the Band Switch scale and show the tuning range in use.

BAND	KILOCYCLES	MEGACYCLES	METERS
Standard Broadcast	540 — 1752	.54 — 1.75	555 — 171
Police	1740 — 5930	1.74 — 5.93	172 — 50.6
Foreign Broadcast	5490 — 18400	5.49 — 18.4	54.5 — 16.3

For Standard Broadcast reception turn the Band Indicator knob to "Broadcast." The scale marked "Standard Broadcast" (1752 to 540 kilocycles) is automatically brought into use. Follow the white pointer for tuning of all stations.

For Police, Airplane and Amateur reception, set the Band Indicator to "Police." This puts the "Police" scale (1.74 to 5.93 megacycles) in use.

For reception of foreign Short Wave stations, set the Band Indicator to "Foreign" which places the Foreign scale (5.49 to 18.4 megacycles) in use. Grouping of principal stations is shown on the dial.

The lower center knob is the TUNING CONTROL, and although the tuning ratio is 120 to 1, it should be turned very slowly for short wave reception. The gold indicator is the SPLIT SECOND hand, position of which is read on the outside scale (0-60.) This device permits accurate logging of short wave stations. Readings of both the white tuning indicator and gold split-second pointer should be recorded. This will give an accurate reference point for future tuning of the same station.

Electric Automatic Tuning (Not incorporated in 25 cycle models)

A three position switch in the form of a knob in the center of the tuning control operates the Electric Tuning device. It is very simply used by turning to the right which automatically starts the dial indicator rotating clockwise. Turning the knob to the left rotates the indicator in a counter-clockwise direction. To tune the receiver electrically start the motor in the proper direction and release the switch knob when approximately the setting desired is reached, then tune the station accurately by using the tuning control knob.

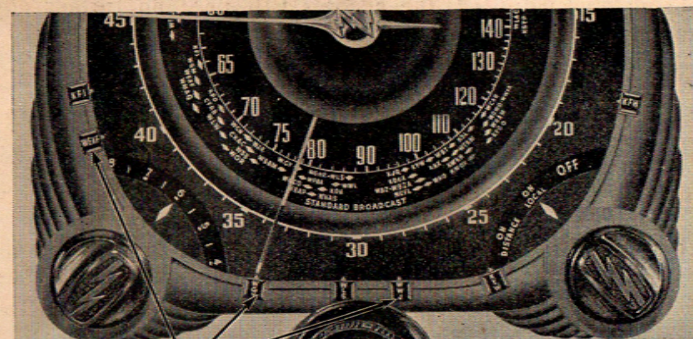
Lightning Station Finder (25 cycle Model only)

For quickly covering the dial scale and eliminating slow movement in changing from one setting to another. To operate, give the tuning knob a twist in the direction desired. The momentum created by an internal fly-wheel arrangement will keep the dial indicator in motion until a slight pressure is applied to the tuning knob at the point where it is desired to stop. This speed action does not in any way affect accuracy needed for slow tuning.

Local Station Indicators

This receiver is equipped with ten station indicators which provide a means of easily logging ten favorite stations. They are set as follows:

1. Set Band Switch for standard broadcast reception.
2. Reading on Standard Broadcast scale of dial, start with pointer at 55, and tune in a clockwise direction until a station is heard.
3. Carefully adjust tuning knob to proper setting for the station selected by use of the Target Tuning Indicator. Slide the station indicator tab furthest to the right until it corresponds exactly to the position of the pointer.
4. The remaining station indicators are placed in order around the lower edge of the dial corresponding to the favorite station settings. See photo page 5.
5. Remove call letters of the stations selected from the two call letter sheets supplied, by cutting along the outlines with a pair of shears. Place in the slots provided on the station indicators.



Local Station Indicators

Voice, Music, Hi-Fidelity Control

This knob perfectly adjusts the tonal response of the receiver for various requirements, giving the finest reproduction on each. For speeches, singing, voice, etc., turn the control to the VOICE position. For all ordinary musical requirements set the control on the NORMAL position. For reception of local HI-FIDELITY broadcast, place the control in the HI-FIDELITY position. This setting extends the musical range by introducing the higher register and proportionately emphasizing the bass register. Where the listener desires extreme bass response the control should be moved to the BASS setting. The FOREIGN setting should be employed when listening to foreign or long distance stations as this position subdues extraneous noises and provides the best ratio of signal for that purpose.

Electric Target Tuning

This device, located in the top center of the dial, provides one of the most accurate and sensitive means of indicating when the receiver is properly tuned to a station. It operates on a principle similar to the X ray and cathode ray tube, and may be used as a means of determining the strength of the incoming signal as well as the proper setting of the tuning knob.

With no station tuned in, only a very dim ring of green light will be visible on the outer circumference of the indicator. As a station is tuned in, this ring will contract towards the center, with the amount of movement depending upon the strength of the station being received. To tune properly, slowly move the station pointer over the signal in both directions to a point which brings the circle of light closest to the center of the target.

Under some conditions during the reception of distant stations, a slight intermittent movement of the ring of light will be noticed. This is due to the fading of the distant station, and is a normal condition.

ACOUSTIC ADAPTER (Console Models only.) The acoustic adapter is mounted on the rear of the loud speaker, and is to be used to counteract unusual acoustic conditions under which the receiver may be operated.

When shipped, the adapter is completely forward towards the speaker. After the receiver is placed where it is to be operated, tune in a musical program and place the voice control in the bass position. Then move the acoustic adapter towards or away from the speaker to the position which gives the best reproduction throughout the room.

After being once adjusted, the adapter will need no further adjusting unless the receiver is moved to another location.

Secret Volume Governor

Where it is desired to limit the maximum volume of the receiver to a pre-determined level such as for hospital use, use in public places, etc., this may be done as follows:

1. Tune the receiver carefully to a local station, and adjust the volume to the loudest desired setting.
2. Remove the knob by pulling directly away from the panel, and insert the short headless screw into the hole provided in the rear of the knob closest to the right side of the elongated cut-out around the volume control shaft.
3. It may be necessary to move the screw to the next hole in either direction before it is definitely determined what volume level is desired.

For tuning long distance or foreign stations this screw should be left out so as not to limit the sensitivity or volume of the receiver. The headless screw will be found in the small paper envelope attached to the receiver.

Service

The high efficiency and unexcelled performance of this receiver have been achieved by the careful selection and high quality of all components. It is therefore most important that when service is required only genuine Zenith parts and tubes are used, and the service rendered by your Zenith dealer or a competent Zenith service man.

This receiver is licensed only for amateur, experimental and broadcast reception. See patent notice inside receiver.

Notes on Reception

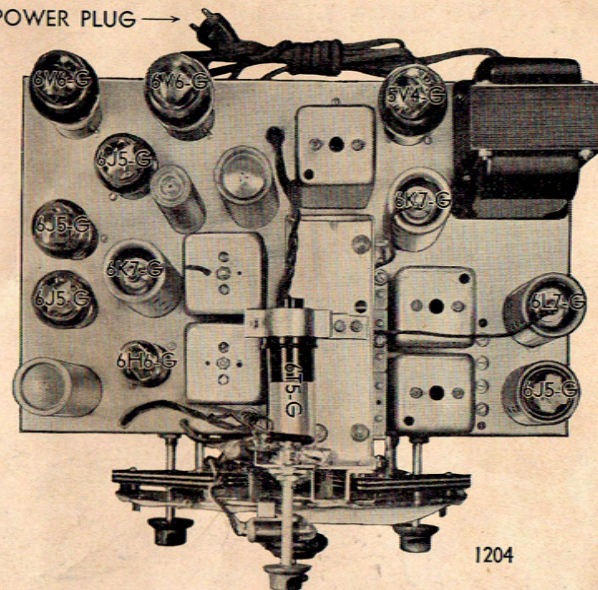
Although your Zenith receiver is capable of giving excellent reception from extreme distances, it should not be expected to receive all distant or foreign stations consistently. Weather conditions and local disturbances affect long distance reception. Electrical equipment of any nature located in the vicinity of the receiver might possibly generate interference. This can be determined by removing the antenna and ground from the receiver and noting if the interference stops. If such is found to be the case, it is originating from sources outside of the receiver. The practical remedy is the installation of suitable filtering equipment at the source of the interference.

Due to the fact there are over 700 broadcast stations in North America, and sufficient area for only 100 on the standard broadcast band, it is necessary that many stations operate at the same frequency. It is quite often possible, therefore, to hear more than one station at the same time. There are about 20 channels on the Standard range where only one or two stations are allocated, and these stations should be received clearly. The congested condition is true regardless of the make or type of the receiver.

Care should also be taken that the receiver is accurately tuned to the point giving the clearest reception, and best indicator position as explained under "Target Tuning Indicator." If the receiver is not tuned correctly, the tone quality and selectivity will be seriously impaired. The tuning knob should never be used to reduce volume.

Make certain that your receiver is correctly installed, and properly operated, and excellent reception will be obtained.

POWER PLUG →



Position of Tubes

Warranty

The Zenith Radio Corporation guarantees each new Zenith receiver and each new ZENITH QUALITY TUBE to be free from defects in workmanship and material.

Our obligation under this warranty is limited to making good at our factory any part or parts of the receiver which within ninety days from date of purchase shall be returned to us with transportation charges prepaid and which on examination shall be found to our satisfaction to have been thus defective. The ZENITH QUALITY TUBES used in this receiver are guaranteed against mechanical and electrical defects under the same warranty as the receiver. This warranty is expressly in lieu of all other warranties expressed or implied, and we neither assume nor authorize any representative or other person to assume for us any other liability in connection with the sale of ZENITH receivers or ZENITH QUALITY TUBES.

This warranty shall not apply to any receiver or tubes which shall have been repaired or altered outside of our factory in any way so as in our judgment to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor which has had the serial number or name altered, defaced or removed. Neither shall this warranty apply to any receiver in which other than ZENITH QUALITY TUBES have been used.

ZENITH RADIO CORPORATION
Chicago, Illinois

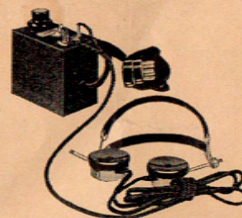
Approximate Dial Readings for Short Wave Stations Heard in North America

FOREIGN AND POLICE BANDS

When you find exact logging for your set, note correct split second reading in blank space.

Split Second Pointer	Mega- cycles	Call	Location	Split Second Pointer	Mega- cycles	Call	Location
—	1.66-1.71	Police		—	7.854	HC2JSE	Guayaquil, Ecuador
—	2.33-2.49	Police		—	9.428	COCH	Havana, Cuba
—	3.50-4.00	Amateurs		—	9.493	XEFT	Veracruz, Mexico
—	5.780	OAX4D	Lima, Peru	—	9.500	PRF5	Rio de Janeiro, Bra.
—	5.800	YV5RC	Caracas, Venezuela	—	9.500	HJ1ABE	Cartagena, Col.
—	5.830	TIGPH	San Jose, C. R.	—	9.500	VK3ME	Melbourne, Aust.
—	5.850	YV1RB	Maracaibo, Ven.	—	9.510	GSB	London, England
—	5.855	H11J	San Pedro, R. D.	—	9.520	HJ4ABH	Armenia, Colombia
—	5.875	HRN	Tegucigalpa, Hond.	—	9.520	XEME	Merida, Mexico
—	5.884	HI9B	Santiago, R. D.	—	9.530	W2XAF	Schenectady, N. Y.
—	5.940	TG2X	Guatemala City	—	9.540	DJN	Berlin, Germany
—	5.950	HJN	Bogota, Colombia	—	9.550	OLR3A	Prague, Czecho.
—	5.970	HJ4ABD	Medellin, Colombia	—	9.560	DJA	Berlin, Germany
—	6.003	XEBT	Mexico City, Mex.	—	9.565	VUB	Bombay, India
—	6.005	CFCX	Montreal, Canada	—	9.570	W1XK	Springfield, Mass.
—	6.010	COCO	Havana, Cuba	—	9.575	HJ2ABC	Cucuta, Colombia
—	6.012	HJ3ABH	Bogota, Colombia	—	9.580	3LR	Melbourne, Aust.
—	6.020	DJC	Berlin, Germany	—	9.580	GSC	London, England
—	6.033	HJ4ABP	Medellin, Colombia	—	9.590	PCJ	Eindhoven, Holland
—	6.040	W1XAL	Boston, Mass.	—	9.590	W3XAU	Philadelphia, Pa.
—	6.040	PRA8	Pernambuco, Brazil	—	9.595	HBL	Geneva, Switz'rland
—	6.042	HJ1ABG	Barranquilla, Col.	—	9.597	VK6ME	Perth, Australia
—	6.055	HJ3ABD	Bogota, Colombia	—	9.615	HJ1ABP	Cartagena, Col.
—	6.060	OXY	Copenhagen, Den.	—	9.635	I2RO3	Rome, Italy
—	6.060	W8XAL	Cincinnati, Ohio	—	9.860	EAQ	Madrid, Spain
—	6.060	W3XAU	Philadelphia, Pa.	—	11.04	CSW	Lisbon, Portugal
—	6.070	CFRX	Toronto, Canada	—	11.49	COCX	Havana, Cuba
—	6.074	HP5F	Colon, Panama	—	11.72	TPA-4	Paris, France
—	6.075	YV1RD	Maracaibo, Ven.	—	11.72	CJRX	Winnipeg, Canada
—	6.080	W9XAA	Chicago, Illinois	—	11.75	GSD	London, England
—	6.097	HJ4ABE	Medellin, Colombia	—	11.77	DJD	Zeesen, Germany
—	6.100	W9XF	Chicago, Ill.	—	11.79	W1XAL	Boston, Mass.
—	6.100	W3XAL	Boundbrook, N. J.	—	11.81	2RO	Rome, Italy
—	6.108	HJ4ABB	Manizales, Col.	—	11.83	W9XAA	Chicago, Ill.
—	6.115	HJ1ABB	Barranquilla, Col.	—	11.83	W2XE	New York, N. Y.
—	6.117	XEUZ	Mexico City, Mex.	—	11.84	OLR4A	Prague, Czecho.
—	6.120	XEPW	Mexico City, Mex.	—	11.85	DJP	Berlin, Germany
—	6.12	W2XE	Wayne, N. J.	—	11.87	W8XK	Pittsburgh, Pa.
—	6.13	COCX	Havana, Cuba	—	11.88	TPA-3	Paris, France
—	6.14	W8XK	Pittsburgh	—	11.90	XEWI	Mexico City, Mex.
—	6.145	HJ4ABU	Pereira, Columbia	—	14.97	LZA	Sofia, Bulgaria
—	6.150	CJRO	Winnipeg, Canada	—	15.11	DJL	Berlin, Germany
—	6.150	CB615	Santiago, Chile	—	15.12	HVJ	Vatican City, Italy
—	6.156	YV5RD	Caracas, Venezuela	—	15.14	GSF	London, England
—	6.171	XEXA	Mexico City, Mex.	—	15.20	DJB	Zeesen, Germany
—	6.380	YV5RF	Caracas, Venezuela	—	15.21	W8XK	Pittsburgh, Pa.
—	6.400	YV5RH	Caracas, Venezuela	—	15.22	PCJ	Eindhoven, Holland
—	6.410	TIPG	San Jose, C. R.	—	15.24	TPA-2	Paris, France
—	6.420	HI1S	Santiago, R. D.	—	15.25	W1XAL	Boston, Mass.
—	6.475	HI4V	San Francisco, R.D.	—	15.26	GSJ	London, England
—	6.52	YV6RV	Valencia, Venez.	—	15.27	W2XE	New York, N. Y.
—	6.55	Ti-RCC	San Jose, C. R.	—	15.28	DJQ	Berlin, Germany
—	6.62	PRADO	Riobamba, Ecuador	—	15.33	W2XAD	Schenectady
—	6.66	HC2RL	Guayaquil, Ecuador	—	17.76	DJE	Zeesen, Germany
—	6.682	TIEP	San Jose, C. R.	—	17.78	W3XAL	Boundbrook, N. J.
—	7.380	XECR	Mexico City, Mex.	—	17.79	GSG	Daventry, England
—	7.520	KKH	Honolulu, Hawaii	—	21.54	W8XK	Pittsburgh, Pa.
—	7.797	HBP	Geneva, Switz'rland				

ZENITH QUALITY ACCESSORIES

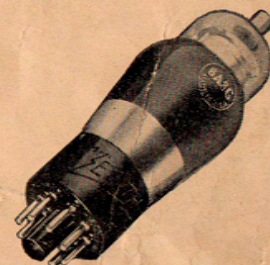


For That "DX" Fan—For the Hard of Hearing

Ask your dealer to demonstrate Zenith's unique Privacy Plug-In. Allows volume control (on superfine headphones) that is *independent* of the set's volume. Can be used when set is silent! Can be loud while set is soft—or vice versa.

For Maximum Tube Performance

Replace your set's Zenith Metaglas Tubes with their natural mates—*more* Zenith Metaglas Tubes. They cost no more and you will thus continue to enjoy typically fine Zenith performance—always!



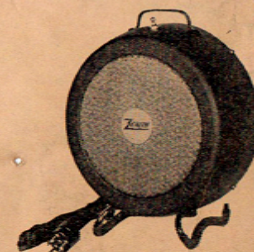
For Noise-Free Reception and Distance

Install Zenith's famous Long Distance Doublet Antenna System—scientifically designed: 1. To reduce interference, noise and dead spots; 2. To increase distance; 3. To intensify signal strength. Assembled at factory; easy to install.



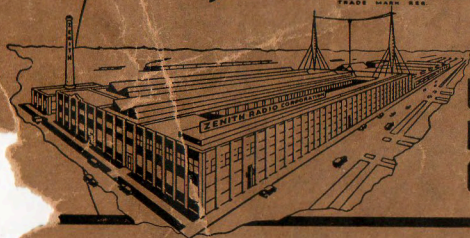
For Reception Remote From the Set

Plug in a Zenith Remote Speaker—portable, durable, compact, and extremely efficient. Brilliantly reproduces the famous tonal qualities of the set itself. Dynamic-type 8" speaker in durable crackle finish, with independent switch and 20 feet of cord. Easily plugged in.



ZENITH
TRADE MARK REG

→ LONG DISTANCE ← **RADIO**



made in
**WORLD'S LARGEST
RADIO FACTORY
ON ONE FLOOR**