

RADIO

CRYSTAL DETECTOR EASY TO CONSTRUCT

Telephone Condenser and Receivers Can Better Be Purchased—Mounting the Set.

The material needed to construct a simple crystal detector is as follows:
A piece of silicon or galena molded in a metal button, 25 cents.
Two binding posts, 20 cents.
A block of shallicked or stained wood 3 by 3 by 3 inches.

A thin strip of sheet copper or brass 3/4 inches wide by two inches long.

Mount the two binding posts on the block of wood as shown, fastening under one binding post a strip of copper or brass—see sketch—and under the other binding post a coiled up spring of fine springy copper or brass wire. By placing the button of metal con-

necting the tuner, the crystal detector and the telephone condenser, can be mounted on a stained base of wood, say, eight inches square and one-half inch thick. This will keep the component parts of the set together, making a compact unit of the whole and also be advantageous in that it will hold the instruments while adjustments are being made.

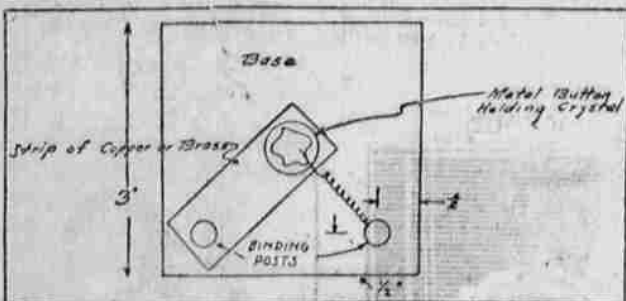
The sketch shows how the instruments are connected with each other and to the ground. The condenser is connected to one side of the tuner and to the crystal detector. The ground is connected to the other side of the phones and the condenser and the tuner.

Lamp cord is excellent for connecting up small radio sets of this kind—it being a good conductor, well insulated and easy to handle.

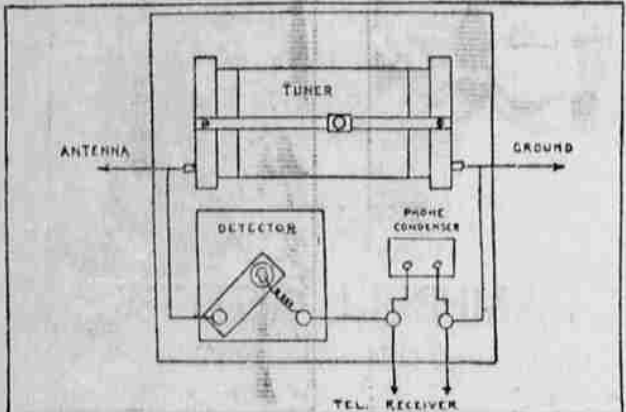
HOW TO LISTEN IN

There are two variables in our radio receiver that require adjustment when it is desired to listen in: first, the detector, and second, the slide position on the tuner. Once the slide position has been determined for any given transmitting station, it is only necessary to adjust the detector to pick up that same station again.

To operate the receiver for the first time it is best to wait until some station like KDKA is transmitting between 8:30 and 9:30 p. m. Then ad-



The Crystal Detector.



Set Mounted on Base, With Connections Shown.

justing the crystal of silicon or galena on the strip of metal and allowing the spring to make contact with the surface of the crystal the detector is complete and ready for operation.

A complete crystal detector can be purchased from 75 cents to \$2, depending upon the type.

Two other pieces of apparatus are necessary that cannot be readily constructed—they are the telephone condenser and the receiver. A telephone condenser to be used in shorting across the phones can be purchased for about 20 cents.

For use with a radio receiver of this type it is recommended that a pair of 3,000-ohm, Marconi type, No. 56 receivers, costing \$5, be purchased.

These are all the necessary parts needed for the complete receiver.

If it is desired, the three instru-

ments the tuner, the crystal detector and the telephone condenser, can be mounted on a stained base of wood, say, eight inches square and one-half inch thick. This will keep the component parts of the set together, making a compact unit of the whole and also be advantageous in that it will hold the instruments while adjustments are being made.

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Churches

Presbyterian Church—A continued interest in the Sunday school hour challenges all to attend the weekly sessions at 9:45, where classes and teachers have been provided for all ages and sizes. The day's services will partake of the Memorial Day thought, and all will wish to avail themselves of this opportunity. Morning worship at 11:00, with Mrs. Hal Bohrenkamp as soloist. Evening worship at 8:00, preceded by the Young People's meeting at 7:15. May we gain that spiritual refreshment that is our daily need by giving God an opportunity of feeding us.—W. C. Ross, Minister.

The First Methodist Episcopal Church—Reverend Joseph Chester of Baker will be the preacher in the forenoon service. The pastor takes much pleasure in presenting Mr. Chester as he is a personal friend and knows of his work intimately. He is a brilliant preacher and will be stimulating spiritually and intellectually to those who hear him. Mr. Chester was pastor in Bingham, Idaho, for some time and may have something to say about conditions in that interesting country. Brief sermon in the evening service by the pastor, on "The Riches of the Message of the Nazarene." Bible school and Epworth League at the customary hours. You are cordially invited to attend any or all of the services of the day. The church exists for you, why not make use of it?—G. H. Quigley, Minister.

St. Peter's Episcopal Church—Corner 4th St. and O Avenue. May 29th is the Sunday after Ascension. Regular services: Holy Communion, 8 a. m.; church school, 9:45; morning prayer and sermon, 11:00; evening prayer, 7:30 p. m. The morning service will be of a Memorial Day character as requested by the G. A. R. and affiliated societies. The sermon topic will be "Contact With a Living Past." All are very cordially invited. There is to be no break in our services during the summer more than that we will ask St. Peter's congregation to unite in the joint services with the other Protestant Communities during the Sunday nights of July and August.—Jos. W. Guma.

Church of Our Lady of the Valley—Communion Mass at 8 o'clock. Parish Mass at 10:30 o'clock. Sermon

on "Ideal in Education." Evening service at 7:30. Graduation exercises by St. Rev. Joseph F. McGrath, Bishop of Eastern Oregon. A hearty welcome is extended to all to attend these services.

Lutheran Church—Services will be held at the Lutheran Church Sunday morning at 10 o'clock. Rev. W. Bergstead, of Portland, the regular pastor, will preach. A cordial invitation is extended to all to attend these services.

First Church of Christ, Scientist—Corner of First and Washington. Sunday morning service at 11 o'clock. Subject: "Ancient and Modern Nazarene, alias Messianism and Heterodoxy, Denounced."

Sunday school at 9:45 a. m. Wednesday evening meeting at 8 o'clock. Reading room open to the public every Monday, Wednesday and Saturday from two to four. All are welcome to attend our services.

LATTER DAY SAINTS—Regular services at the Tabernacle. Sunday school commences at 10:30 a. m. Sacramental services at 12:15.

ONE DAY ONLY—AFTERNOON AND NIGHT
TUESDAY, MAY 30th

AL G. BARNES
BIG 4 RING WILD ANIMAL
TUSKO
LARGEST LIVING CREATURE AT COTTON TAVERN
AL G. BARNES
Circus
LOTUS
WORLD'S LARGEST AND ONLY PERFORMING HIBISCUS
PERFORMANCES 2 AND 8 PM DAILY
RESERVED SEAT SALE SHOW DAY—Glass Drug Co., Inc., Formerly Silverthorn Drug Store

Admission 50c and 75c
Reserved Seat Sale Show Day—Glass Drug Co., Inc., Formerly Silverthorn Drug Store

Exide Batteries

Batteries in stock.
Batteries for Rent.
Batteries Recharged.
Batteries Watered Free.
Batteries of all makes Repaired.
Stromberg Carburetor Service.

B. & T. BATTERY STATION
Fred Burgess, Prop.
In Leighton's Machine Works

For Utmost Corset Satisfaction be Fitted to

"La Camille"



—No squeezing of organs; no pressure; defects of figure corrected; a perfect foundation for your gowns.
—This in addition to the comforts afforded through the exclusive "La Camille" features: No pressure on spine; no cutting by laces; no pinching of tops; no digging of stays at top—but freedom, ventilation, satisfaction.
—A complete line of the different models always on hand. Prices \$2.50 and up.
Mrs. Robt. Pattison Corsetiere
Res. 1702, Cor. Spring & Oak Phone 322-W

La Grande MATTRESS SHOP and WEAVING WORKS
Mattresses of all kinds cleaned or refilled. Feather Renovating. Rugs Rugs and Pluff Rugs for sale.
Carpets and Rug Cleaning
\$12, \$1.50 and up
Chas. Edwards, Prop.
Phone 253-W

As Usual We Are Right In Front With New Goods

Children's White Dresses	\$1.19 to \$2.98
Children's White Middy Dresses	\$1.43
Misses Princess Slips	98c to \$1.45
Children's White Muslin Bloomers	25c
Children's Knitted Bloomers	39c
Hemstitched Table Cloth	\$1.69
Round Table Cloth with button hole scallop	\$2.50
Polly Prim Aprons	75c
San Hats	25c
Special for 10 days only Art Embroidery Needle	50c
Silkine Pearl Cotton, spool	10c

Andrew's Variety Store

I-C-E

Get you ice from the M. A. Stillwell Meat Co. It will be delivered when you want it.

PHONE MAIN 700

LA GRANDE IRON WORKS
MACHINE SHOP and FOUNDRY
All kinds of machinery, automobiles and tractors repaired, overhauled and rebuilt.
Acetylene welding of all kinds.
Cylinder boring and oversize pistons.
Crankshafts, Pistons and Piston Pins reground.
Give us a trial
D. FITZGERALD, Prop.

All Who Wear Glasses and All Who Don't Want to Wear Glasses

SEE US AT ONCE

THE EYES must be protected from the heavy glare of the electric light.
THE SUNLITE AND DAYLITE LENSES will surprise you. They allow you to see without seeing it themselves? So much more light where you need it at the same cost and every color in the room so beautiful.

We are Proving the Merits Every Day

AL'S ILLUMINATING STORE

Elm Street near Y. M. C. A.
La Grande, Oregon

La Grande, Oregon, May 1st, 1922.

To Our Customers;

After June 1st, we request that all our customers please save their sales slips, as we do not again receive them. We have been for the past three years using a Burroughs Bookkeeping Machine on our Wholesale and General Ledger accounts and have decided to handle all our retail accounts in the same manner. This machine is similar to that used in the banks. We believe this machine will expedite our accounting and make it possible for us to give you the best service in your accounts with absolute accuracy.

However, should you have any missing slips we will gladly furnish you duplicates, as we retain all original sales slips in our files.

Very truly yours,

The Grande Ronde Meat Co.

WELL CHOSEN ELECTRICAL EQUIPMENT MAKES THE HOME—

Let Us Estimate Your Next Job.

H. & S. ELECTRIC

Electrical Contractors

105 Depot Street.

Phone 393-W

OBSERVER ADVERTISING will bring results

The use of money is all the advantage there is in having money—Poor Richard.

During the few years just preceding the Revolutionary War while the colonists were heavily burdened with taxation of all kinds, "Poor Richard's" axioms of thrift helped many a man to make ends meet.

Today you can profit by these same worthy axioms because only by thrift can you expect to

Solve the Building Problem

We know many people in this community who have been following Ben Franklin's advice and who saved a part of their earnings and are now planning to build homes, barns, stores, etc. You will appreciate the big values we offer in building materials and our complete plan service. Let's work together to make 1922 the biggest building year and the best year our city has ever seen.

The Grande Ronde Lumber Co.

I-C-E

We are proud of our record of having furnished the people of La Grande with pure artificial ice for the past twenty years. We are still at your service.

W. D. Grandy

SANITARY ICE COMPANY

Phones—297-J and 297-M

Book Store of Central Asia
Brought from the east long a volume of interesting and popular literature. The collection includes some of the best of the world's literature. The book store is open from 10:00 a. m. to 8:00 p. m. and is located at the corner of 4th and O Avenues.

Invincible Allergens.
"Heartbreakers" was the name given to a certain kind of heart disease. It was a disease that was caused by a certain kind of heart disease. It was a disease that was caused by a certain kind of heart disease. It was a disease that was caused by a certain kind of heart disease.