# RADIO NEWS

FEBRUARY
1947
35c

"WAVEMETERS COVERING AMATEUR FREQUEN... ...TESTING"

RN-56-J41366-47
LAURENCE THORSON
DALLAS WIS

# TOMORROW'S PRODUCTS TODAY...

STOCK DELIVERY

Featherweight Miniature

## TEST INSTRUMENTS

**Compact — Accurate — Priced Right!**

- Jeweled Meter • Range Selector Switch
- All multipliers bridge tested for 1% accuracy
- Zero adjustment—built in batteries
- Molded bakelite case only 3-15/16" x 2-7/8" x 2"

### MODEL 450A

**Volt—Ohm—Milliammeter**

A fine instrument having a sensitivity of 1000 ohms per volt.
Ranges: Volts DC, 0-5/10/50/500/1000; Mills DC, 0-1; Ohms full scale, 0-5000/50,000/500,000; Ohms center scale, 30/300/3000.

**NET** complete with batteries **9.75**

### MODEL 451A AC-DC

**Volt—Ohm—Milliammeter**

A dependable instrument of wide utility—sensitivity 1000 ohms per volt.
Ranges: Volts AC, DC, and Output Ranges, 0-10/50/100/500/1000; Ohms full scale, 500,000. Ohms center scale, 7200.

**NET** complete with batteries......... **13.65**

### MODEL 451B

Same instrument as above but has 2500 ohms per volt sensitivity.

**NET** complete with batteries......... **15.15**

### MODEL 452A

**Volt—Ohmmeter**

A superb instrument—100 microampere meter gives 10000 ohms per volt sensitivity.
Ranges: Volts DC, 0-10/50/100/500/1000; Ohms full scale, 0-2000/20,000/200,000/2 Megs; Ohms center scale, 30/300/3000/30,000.

**NET** complete with batteries......... **13.65**

### MODEL 312

**Volt—Ohm—Milliammeter**

An economy pocket meter featuring a 2" moving vane meter.
Reads: AC-DC volts, 0-25/50/125/250; Mills AC-DC, 0-50; Ohms, 100,000; mfd. .05-15.
Jacks provide range selection.

**NET** Complete with cord and plug....... **6.00**

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**Guaranteed first quality.**

"The best at the lowest price"

| Mfd. | Voltage | Net |
|---|---|---|
| 10 | 25 | 27¢ |
| 25 | 25 | 36¢ |
| 100 | 25 | 52¢ |
| 10 | 50 | 32¢ |
| 8 | 150 | 32¢ |
| 16 | 150 | 42¢ |
| 20 | 150 | 44¢ |
| 30 | 150 | 47¢ |
| 20/20 | 150 | 70¢ |
| 30/20 | 150 | 88¢ |
| 100/30 | 150 | 94¢ |
| 20 | 250 | 59¢ |
| 8 | 450 | 44¢ |
| 16 | 450 | 64¢ |

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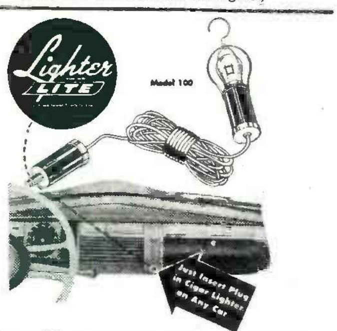
### PHILCO BEAM OF LIGHT

Selenium cell only, no holder, postpaid......... **1.80**
(Puts new life in Philco Changers.)




**"One with every car radio service job"**

Emergency trouble lite. 12' cord reaches anywhere on car. Insert plug in cigar lighter on any car. Gives light—where needed—when needed—a "natural" for installing and servicing car radios—use it—sell it to your customer—for added profit.

1 lighter lite in box **2.50**
1 dozen...... **1.88 ea.**
2 dozen...... **1.67 ea.**
4 dozen...... **1.50 ea.**

### SHORT WAVE RECEIVERS

HALLICRAFTERS S-38................ **39.50**
S40 (REPLACES S20R)................ **79.50**
HAMMARLUND HQ129X............ **161.40**
SPEAKER IN MATCHING CABINET.... **11.85**

20% deposit required on all C.O.D. orders.
2% transportation allowance on orders of $25.00 or more accompanied by payment in full.

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and 3:30-9:45 a.m.; *English* periods begin at 5:45 and 8:30 a.m.

* * *

**Radio Central America**

We are indebted to the staff of *Radio Central America,* Box 1335, Panama City, Republic of Panama, for this interesting article prepared expressly for readers of RADIO NEWS:

"New equipment now being installed at Station HOX, Panama, will make *Radio Central America* the first radio outlet to give complete long-wave coverage of the Republic of Panama and other parts of Central America as well, although Panama now has nine stations in operation and seven others in various stages of construction.

"The new equipment consists of a one-kilowatt transmitter, beam antenna for short-wave transmissions which will increase the power of the station approximately six times; new recording facilities; and FM transmitters.

"*Radio Central America* first went on regular schedule on October 12, 1946, after three years of planning and painful accumulation of equipment and building materials.

"Although the Republic of Panama has long had several commercial radio stations (due to local restrictions, there is but one amateur station on the Isthmus, although the amateur field is expected to be opened shortly), the promoters of *Radio Central America* were not satisfied with the local radio stations, and were determined to add a new station to the list.

"This group of Panama businessmen, therefore, placed orders for equipment through the Panama Radio Corporation and applied to the Government of Panama for a construction license. At that time—1943—it was a difficult question to answer—which was the harder to get, building materials or radio equipment. For some time, *Radio Central America* remained a 'paper company.'

"The end of the war brought not only equipment to *Radio Central America,* but also the services of two young Americans, James T. Cooper, Raleigh, North Carolina, and Wilbur T. Morrison, Lancaster, Pennsylvania. Cooper, now English Program Director of Station HOX, was formerly with WIP, Philadelphia, and both he and Morrison were in radio work with the Army Air Forces on the Isthmus during the war. Cooper was for a time director of USO stage and radio activities in Cristobal, Canal Zone.

"After two years of waiting, equipment and building materials for HOX began to arrive. In December, 1945, work began on the building which now houses the station's transmitting equipment and temporary studios. Workmen began setting up the transmitting equipment in February of 1946, and in April the all-steel *Blaw-Knox* tower which is HOX's BCB antenna, began to rise toward its present height of 261 feet, seven inches.

"Late in July, 1946, HOX began to make test broadcasts. Letters poured



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in from all over the world reporting that the station was coming in fine—better than some local stations, the letters invariably said. With the exceptions of Bolivia, Uruguay, and Paraguay, HOX received confirmation of the strength of its signal from all countries of the Western Hemisphere and from every state in the United States. *Why Bolivia, Uruguay, and Paraguay have remained silent is still a mystery!* Responses have come in from Hawaii, Portugal, India, Liberia, Norway, Nigeria, Egypt, Germany, Newfoundland, The Netherlands East Indies, England, the Christmas Islands, Denmark, Australia, New Zealand, and a number of places in the Pacific, identified only by APO numbers. One letter from Germany—in a tight, careful script—covered several pages with a painstaking description of HOX reception; the writer, a radio technician, said that he had once had a transmitter of his own but that 'it burned down about three years ago.'

Reports from Sweden were especially notable. As reported in the November (1946) issue of RADIO NEWS, the Swedes are great radio listeners. Chief Engineer Morrison, of HOX, says that, judging solely by the mail received by *Radio Central America,* from Sweden, "one would think that all Swedes speak English, listen to the radio avidly, and are great stamp collectors!" Morrison lists the Swedes as *Radio Central America's* greatest foreign fans, and after them, Canadians and Cubans.

"Like most Panama radio enterprises, *Radio Central America* now transmits on more than one frequency. At present on the air are Stations HOX, 940 kcs., and HOXA, 15.100. Eventually, it is planned to radiate over Stations HOXB, 11.810; HOXC, 9.660; HOXD, 1310 kcs.; and HOXFM, 43.300. HOXFM will be Panama's first and only FM station; it will serve chiefly as a link between *Radio Central America's* downtown studios—now under construction—and the transmitter, which is located in Panama City's suburbs.

"At present, transmissions over HOX and HOXA are identical. From 11 a.m. until 9 p.m. each day, Spanish programs are transmitted over both frequencies, and from 9 p.m. until midnight, *English* language broadcasts are radiated.

"It is planned, however, when all the new equipment is ready for use, to expand the *English* language broadcasts to a full day and to broadcast them on a frequency different from the Spanish language outlet.

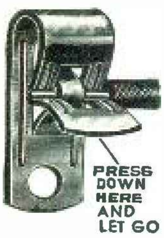
"When *Radio Central America* goes on the air with a full-time program in English, it will be broadcasting more English than any other station in Panama, and probably more than any other in Central America. Before HOX appeared on the scene, Panama radio stations broadcast almost entirely in Spanish with only a few programs—such as short newscasts—in English. Heretofore, the only all-English broadcast from the Isthmus was done by the *Armed Forces Radio Station* in the Canal Zone, which still broadcasts all day in *English.*

"Other Panama stations have protested the existence of the AFRS and its continuance after the end of the war. They charge that it offers unfair competition to Panama stations because the great majority of English-speaking residents on the Isthmus prefer to listen to programs in English rather than in Spanish. During the recent Inter-American Radio Congress in Mexico City, the Panama delegate—an employee of one of the local stations—put in an official protest against the AFRS which protest was adopted by the Congress. Even so, authorities of the Canal Zone have shown little disposition to remove the AFRS which they regard as a considerable morale factor among the men of the U.S. Army and Navy stationed on the Isthmus. The recent announcement concerning the Caribbean Area indicates that there will be more soldiers and sailors on the Isthmus in the future than there are now, and that probably, unless budget considerations force its removal, the AFRS will continue business at the same old stand.

"Despite the many protests by various Panama radio enterprises against the AFRS, *Radio Central America* was the first Panama station to offer ac-

(*Continued on page* 104)


# Fahnestock Clips
## RADIO'S GREATEST CONVENIENCE

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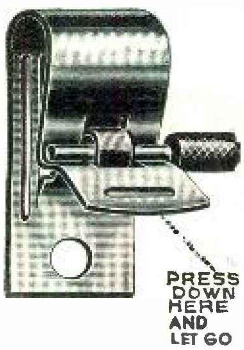
No tools required to make the connection. Grips the wire with just the right pressure for good electrical contact. Simply press down, insert the wire and let go. Does not injure wire, hence connection can be made or opened as often as desired. Available in large variety of types and sizes to fit any radio purpose and any requirement as to position, space or method of attachment. You will find them in the better sets.

Positive contact; cannot jar loose. Brass or bronze—nonrusting.





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## Skilled Technicians OF BY FOR RADIO

OUR young men come to us from every walk of life—from the farm—from the city—rich and poor—many ex-GI's. They represent every race and creed but they do have ONE thing in common.

They're all men *OF* Radio, *BY* Radio and *FOR* Radio. They've grown up with a "cat's whisker" and a set of headphones as playthings. The only lullabyes they remember are the ones they heard over Dad's Battery Set, with all the knobs, dials, and switches, when radio itself was an infant.

These young men have never known a world without radio, and they never want to. Radio has molded their minds, provided them with an absorbing hobby and given them the means of earning a good living.

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Now, with their training at National Schools behind them, they are prepared to contribute their skill, talent and creative ideas to an industry which is literally a part of them.

We feel fortunate indeed to have had the privilege of awakening the dormant abilities of many men now holding prominent positions in Broadcasting, Communications, Radio Sales and Service, Television and Electronics. And we look forward with pleasure to an ever-broadening educational program, designed to train still more men to fill the thousands of specialized positions radio will require in the future.

During the four decades since we first began to build men for Industry, we have kept accurate student records and compiled unusually complete performance charts. Thus we have acquired a keen insight into the most effective ways to inspire radio-minded men to APPLY their training, and to use their creative abilities to the best advantage of themselves and their employers.

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N-18


## International Short-Wave

*(Continued from page 68)*

tive competition in the form of English language broadcasts. Spurred by this competition, several of the other Panama radio stations are considering an increase in their English language broadcasting. Some even propose—as HOX does—to broadcast a full daily schedule in English.

"Thus far, the English language broadcasting over HOX and HOXA has been limited largely to musical programs based on commercial discs, and newscasts. In addition, the English staff has presented several programs of a special nature on the occasion of U.S. and Panamanian holidays. With the recent arrival of a library of World Service transcriptions and programs, English Program Director Cooper now plans an expanded series of programs—including many live programs using local talent.

"The Spanish program staff of *Radio Central America,* headed by Salustiano Chacon, formerly of CBS, New York City, has naturally been more fortunate in the matter of being able to use live talent. Latin America is a land of music where nearly everyone likes to sing or strum a guitar, or both, and Panama is no exception. Panama is noted for several highly-individual musical forms, mostly connected with traditional national dances.

"All indications point to a considerable growth in radio activities on the Isthmus of Panama. As previously noted, seven more stations are in various stages of construction, of which at least two are scheduled to be on the air about the time you read this.

"Business circles predict an expansion of English broadcasting, especially in view of the expected increase in activity in the Canal Zone. Before the war, a great number of people were employed in the Canal Zone in connection with the construction of a third set of locks for the Panama Canal. The war halted the project, but it has been under consideration again recently along with proposals to convert the present lock canal into a sea-level canal or to construct another canal at a different location. No matter which project is selected, it appears likely that there will be a considerable increase in activity in the Canal Zone within the near future, with a subsequent upward trend in volume of business and prosperity.

*It is expected that HOXA, 15.100, will broadcast a special DX program sometime soon for readers of* RADIO NEWS. Definite arrangements have not been completed, but will be announced shortly.

* * *

### Re The Byrd Expedition

First report to this Department of reception of NAVE, station aboard Adm. Byrd's "Mt. Olympus," of the Antarctic Expedition, came in early in December from Lynn McLaughlin, Charleston, West Virginia:

"I have been listening to some interesting point-to-point work from the 'Mt. Olympus,' Adm. Byrd's Antarctic Expedition; call-letters of 'Olympus'

## A SIMPLE NOISE LIMITER

By R. J. HAGERTY, W6JMI

**THE problem of installing a noise limiter in a receiver not so equipped usually involves procuring bias voltages, installing condensers, resistors, potentiometers, etc., and generally becomes a complicated business.**

**In searching around for a simple noise limiting device it occurred to us that the diodes of a tube, whose cathode was connected to ground, would be sufficient to cut off the noise peaks. Carrying the idea a bit further we figured that if the sharp peaks of noise, such as caused by automobile ignition, were cut off in the audio, reception would improve.**

**In practice the circuit shown in the accompanying diagram has proven very practical. It is of the utmost simplicity—using only one tube, one switch and no other parts. The only voltage necessary is the filament voltage. It has a further advantage in that it will not upset any existing circuits and no tuning is required. We used a 6SQ7 because it was immediately available in our junk box although a 6H6, 75, 85 or similar tube could have been used. The cathode is connected directly to ground. The diodes are connected in parallel and then to the switch for cutting limiter in or out of the circuit. The other side of the switch is connected directly to the grid of the last audio amplifier in the receiver.**

**In operation, signals of low to medium intensity are not affected but on sharp bothersome noise, the kind that plays havoc with ten meter reception, the limiter "clips" off the peak and shunts it to ground. On broadcast reception distortion will be present due to the clipping of the highs—but this is no problem in communication work. It is the simplest and cheapest noise limiter possible and one that has helped us immeasurably on ten meters. We have tried potentiometers in the diode and the grid circuits in an effort to improve same but the improvement was so slight that it wasn't worth the effort. We know that it isn't the best noise limiter in the world but for simplicity and low cost it can't be beat and it has made communication possible that would have been impossible without it.**

—30—

Schematic diagram of noise limiter.