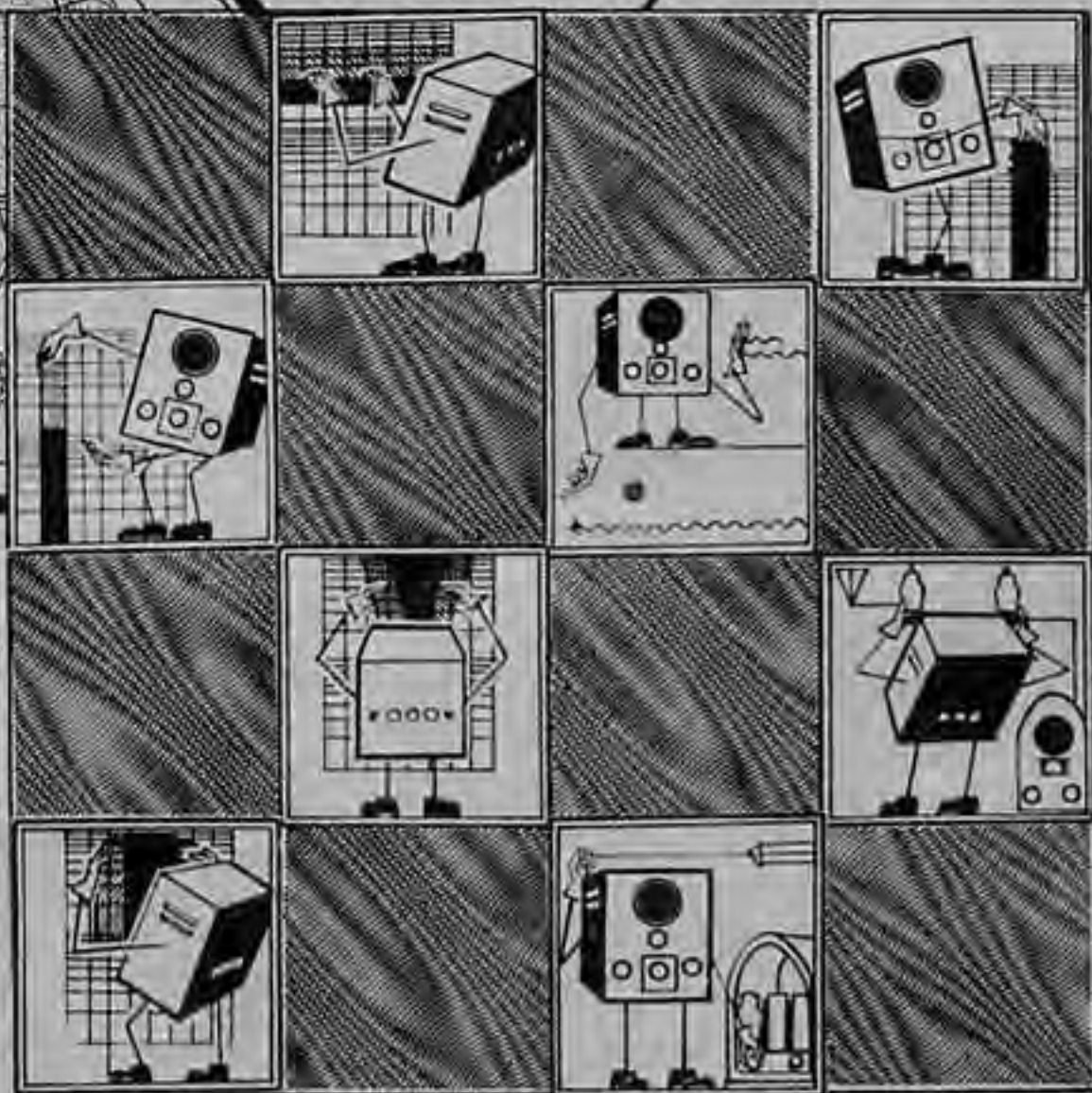




METHODS FOR IMPROVING *Short Wave Reception*



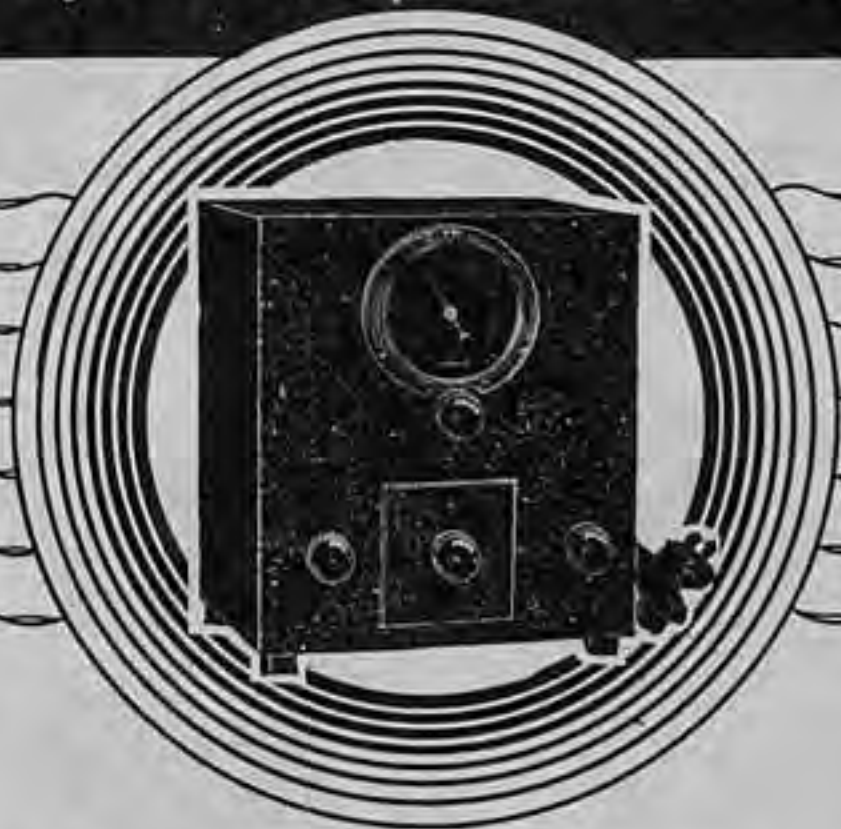
POSTAL
135 LIBERTY STREET



RADIO
NEW YORK, N. Y.



The Ultimate in Design...



Built Specifically For The Short-Wave Fan and Amateur

Although specifically designed to meet the stringent requirements of the serious minded short wave enthusiast, the Postal Booster embodies all desirable professional features.

A number of its unusual refinements include; Single dial control, for simplicity of operation; New duplex drawer type plug-in coils, for precision calibration; Full vision illuminated dial, for fast logging;

Front panel coil changing, for swift band shift; Cut-out switch, to place the Booster in and out of the circuit; Optional wide band spread coils, for tuning in crowded bands; High ratio non-slip vernier dial, for easy tuning.

We invite you to test and compare the Postal Booster with any other similar device on the market. We are confident of your unrestrained approval.

ARE YOU GETTING

THE MOST OUT OF

SHORT WAVES?

Every man, woman and child forever seeks to express an unsatiated and adventurous spirit in exploration of uncharted territory whether it be in the realm of personal experience, science, art or travel.

Short wave radio places in your hands the new means to make the most fascinating, uplifting, enjoyable journeys into each one of these realms.

To experience a great soul stirring thrill of manipulating a scientific marvel which brings you the songs, musics and speeches of far lands, strange and unseen, is a priceless heritage of our modern age.

What a rare opportunity....

What an immeasurable thrill! Yet it may all be yours — IF your S.W. radio receiver can easily bring in the remotest station with sufficient volume — IF you can separate interfering stations — IF your S.W. set is really capable of dependable noise-free reception.

All of these probabilities are very easily eliminated through a fundamental knowledge of their causes and cures.

If you have been deprived of the pleasure that may be derived from real perfected short wave reception, a reading of this booklet will bring into your life a thrill that may be wrung from radio in no other way.





Increase Sensitivity

The most important consideration in any short-wave receiver is its sensitivity.

It is a fundamental principle of radio that you cannot amplify anything which you do not detect. Consequently the vital and initial step is to see that the signal reaches the first tube, of your S.W. set with as little loss as possible, accompanied by minimum noise and maximum strength.

Although it has been argued that no amplification could be obtained above 4,000 kc (or as low as 75 meters), recent authentic tests with modern TRIPLE-GRID SUPER-CONTROL PENTODE R.F. AMPLIFIERS (type 78 etc.) show that a tremendous gain can be realized at 30,000 kc. (10 meters).

R.C.A. engineers rate the voltage amplification power of the 78 tube at 1160, which means that it is capable of amplifying or making a signal one thousand, one hundred and sixty two times STRONGER! When TWO of such tubes are used, as in the Postal Two Stage Tuned Preselector the total gain is $1,160 \times 1,160$ or 1,345,600.

Assuming that the tubes are only 10% efficient at the very high frequencies, they will still amplify the signal more than 100,000 times before it is fed into your S.W. receiver.

Can you imagine how much this increased gain will improve your S.W. receiver?



Decrease Noise

Noise, the enemy of successful short wave reception, can be divided into two types; that which is produced by the receiver proper, and that which enters the receiver via the antenna.

Inasmuch as most high-quality short - wave receivers are practically noiseless, and pick up all of the signal and most of the noise through the aerial, it becomes particularly desirable to employ a receiving system with a high signal-to-noise-ratio (which means that the signal is amplified MORE than the noise by a sufficient margin to make it easily understandable).

No matter how much gain or sensitivity a short wave set may have, it will NOT bring in the desired "DX" signal if the signal is lost in the noise present in the "front end" of the receiver.

Short-Wave Engineers have long known that improper electrical and mechanical shielding of the pre-selector and antenna circuits from the detector is responsible for a large share of the noise induced into short-wave sets (by feedback).

It is for this reason that the Postal (TWO STAGE PRE-SELECTOR) Booster has been designed to be completely mechanically isolated, and thoroughly electrically shielded from any short-wave receiver with which it is used. It can therefore act as an efficient noise trap to eliminate all noise, while it amplifies the desired signal.





Strengthen Signal


In the average short wave receiver, the input voltage of faint or practically inaudible stations have a relatively constant value depending upon numerous factors, chief among them is antenna pick-up efficiency and signal strength.

If the power of a weak or inaudible foreign station remains the same, your antenna will always receive the signal with the same intensity (under similar atmospheric conditions). If the average intensity of the received signal is too weak to activate your receiver, it will not be heard regardless of how sensitive your receiver is or how much audio amplification you use.


On the other hand, if that same feeble signal could be strengthened considerably, before it is fed into the receiver, the result will be equivalent to an apparent increase of power on the part of the broadcasting station, and the same signal will become distinctly audible (or it may operate the loud speaker at full volume). This is exactly what the Postal R.F. Booster does.

The Postal Two Stage Tuned R.F. Pre-Selector and Booster not only increases the apparent signal strength of inaudible stations, but it provides all the advantages offered by R.F. amplification.

Because of the great numerical gain in voltage of the Postal Booster, it allows the use of less elaborate equipment to accomplish remarkable short wave reception, while it greatly enhances the performance of the most expensive equipment.



Stop Repeat Spots




There was a time when all short-wave fans were thrilled to hear any "foreigner" even if it did come in on one or more points of the dial (Repeat Spots) accompanied by interfering code stations (image frequency reception).

To-day, however, serious-minded short-wave fans want specialized station reception — real "CATCHES" — free from code interference, and capable of being accurately (SINGLE-SPOT) logged.

Repeat spots are produced by tuning the oscillator circuit above or below an incoming signal so that an intermediate frequency (equal to the I. F. employed in the receiver) is produced at two or more dial settings.

Image frequency reception is the interference caused by receiving two stations, one of which is the desired signal (above the oscillator frequency — the "mirror") and the other, the undesired signal — the "image" (an equal distance below the oscillator frequency).

Repeat spots cause a needless waste of time in unknowingly identifying the same station twice. Image frequency reception is a cause of unavoidable interference which prevents positive station identification. Both of these conditions are serious handicaps to ideal short-wave reception — and both can be completely eliminated by ONE simple remedy — a sharply tuned and completely shielded R.F. Pre-Selector.



Receiver selectivity is obviously of paramount importance in successful short wave reception. R. F. Boosters not only provide for attainment of an ultimate degree of selectivity but also furnish a successful method for signal and noise rejection. Both of these functions are essential for dependable trans-oceanic reception and both of these conditions are best accomplished by increasing the selectivity of your present receiver, for the reasons outlined below;

1. INCREASED SELECTIVITY MINIMIZES STATIC

The amount of static present in a S. W. receiver is dependent upon the width of the "front door" of the set. As most forms of static appear simultaneously over a wide frequency band, it follows that the narrower the band of frequencies admitted by the receiver, the lower will be the noise level. By employing two selective stages of Tuned R.F. amplification, the Postal Booster effectively limits the amount of static that can enter into your S.W. receiver, and at the same time amplifies the desired signal — producing thereby a HIGH signal and LOW noise level.

2. INCREASED SELECTIVITY AVOIDS INTERFERENCE

With the constantly increasing number of foreign short wave stations, owners of both elaborate and simple receivers are becoming aware of the inferior selectivity of their sets. The active 19, 25, 30 and 49 meter bands are particularly notorious for their interference. The only effective remedy for this form of interference is increased selectivity and is best accomplished by adding at least one (or more) tuned R.F. stages to your present receiver.

The use of several R.F. stages have been found to considerably reduce noise and disturbances caused by electrical equipment and atmospherics (static), as well as the rejection of broadly tuned R. F. signals which are present when the receiver is used in the vicinity of a powerful transmitter. R.F. Pre-Amplifiers also minimize I.F. hiss heard in sensitive superheterodynes.

You might ask, "Why should I add R. F. amplification? If the advantages offered by tuned R.F. pre-selectors are so beneficial to ideal short wave reception, why do many manufacturers omit this valuable feature from expensive receivers?"

The answer to this question comes from one of the foremost short-wave engineers who says, "The problem of building a dependable short wave receiver with several carefully aligned and truly matched Tuned R.F. stages, is a complicated one, and aside from additional cost, it does not lend itself to rapid production in factory work".

The Postal Booster, however, is not built on a production basis, but is constructed as a laboratory precision product (each one of which is delicately measured, accurately checked and carefully calibrated by the designer himself.

When the Postal Tuned R.F. Pre-selector is used ahead of your present short-wave receiver it is also capable of rejecting image frequencies and eliminating repeat spots.

Spread Crowded Bands Match Aerial To Set

What is band-spread and why should it be used? Band-spread is the ability of a tuning system to spread a narrow wave band (which is ordinarily tuned within four or five degrees of the dial) over the full 180 degrees of the dial.

Band spreading is essential to ideal short-wave reception because of the frequencies assigned to amateur and foreign short wave stations.

For example, consider the amateur bands; 7,000 to 7,300 kc and 3,500 to 4,000 kc two narrow widely separated wave bands.

A S.W. receiver to cover both with a single coil would tune about four degrees on each band. If there should be 100 stations operating in each band, these stations would all be within four degrees of the tuning dial and naturally inseparable. If these crowded bands were spread over 180 degrees, the stations could be easily separated.

The Postal Booster is entirely adaptable for full band spread operation (over 180 degrees) on any of the amateur or foreign bands (20, 40, 80 and 160 meters).

Although a standard short wave receiver is not equipped with band-spread features, the use of band-spread coils in a R. F. Pre-selector will permit the signal to reach the receiver with minimum interference and maximum intensity.

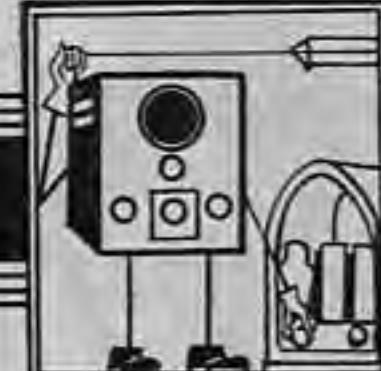
Let us give a little thought to the problem of getting the signal out of the aerial and into the receiver under the best possible conditions. There are numerous opportunities for loss at the junction between the antenna and the first tuned circuit of a short wave receiver.

Improper coupling will produce a number of undesirable effects such as; decrease of signal strength, increase of noise, cross talk and R.F. distortion.

The most effective elimination of these evils lies in the use of a tuned coupling and amplifying system which is perfectly matched at one end to the aerial, and at the other end to the receiver.

The scientific shielding of the tuned system employed in the Booster, plus the fact that its output matches the antenna circuits of all short-wave receivers, provides for an unsurpassed degree of efficiency, which when translated into terms of performance means the complete elimination of "dead spots" which cause spotty tuning in many short-wave sets.

Inasmuch as no special type of antenna need be employed with the Postal Booster (provision is made for single wire or doublet antenna), it may be used efficiently with any existing antenna system.

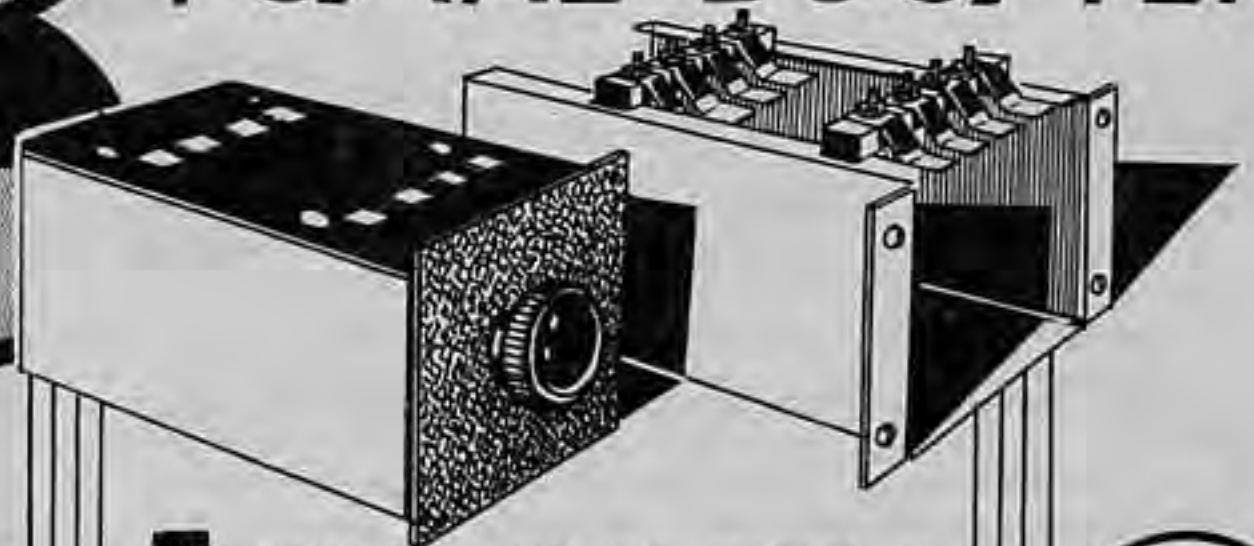




EXCLUSIVE FEATURES

Developed for the

POSTAL BOOSTER



The duplex drawer coil unit employed in the Postal Booster is essentially composed of two precision space wound coils fully shielded from each other, but contained within one catacomb drawer and so arranged that the entire unit slides into its receptacle through the FRONT PANEL, in a manner similar to changing drawers of a miniature desk.

The cadmium plated steel receptacle, into which the drawer coil slides, is equipped with eight specially designed DOUBLE-SPRING butt-wiping and self-cleaning contacts which are in no small measure responsible for the unusual performance and permanent operation of this band-changing system. Each contact is composed of two springs; one made of phosphor bronze, for connection, and the other made of tempered high carbon steel (similar to clock springs), for tension. The tension spring absorbs all bending stress. The Postal Duplex Drawer Type Slide-In coils are the only units that we know of which combine into one band-changing system the convenience of switching arrangements together with the efficiency of plug-coils.

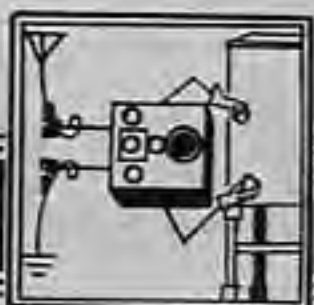


Operation

The tuning arrangement of the Postal Booster has been reduced to such extreme simplicity that even children can "bring-in" those "hard-to-get" foreign stations.

This unusual simplicity has been attained thru the design of a 100% accurate ganging system whereby both circuits are tuned by a single control without the use of external trimmers or compensators.

Factory adjusted to precision standards and further carefully checked on all bands for exact resonance.



Connections

No messy, elaborate or trick installation is necessary. Just place this smart-looking unit alongside of your set and enjoy dependable world-wide reception.

Only four connections are required; two to the antenna and ground and two to the outside aerial and ground.

The power line cord plugs into any 110 volt AC or DC electric socket.

No changes or adapters are required whatsoever. Takes less than two minutes to install.

Helps Your Set



Get DX Stations

If you own any kind of a short wave receiver whether it be a selective superheterodyne or sensitive TRF, elaborate or simple, expensive or low priced, you undoubtedly have had the experience of hearing stations just below the point of audibility.

There is no need for remaining out of range of any station, for any signal that is on the threshold of audibility may be brought in with deafening volume by "boosting" the signal with the Postal Two Stage R.F. Preselector and Booster.

Benefits All S.W.



Radio Receivers

However sensitive a receiver may be it can always be made much more sensitive with the Booster. However selective it may be, it can always be made more selective with the extra tuned stages of the Postal Booster. And if it is neither sensitive or selective the Booster is guaranteed to make it both.

When the Booster is used with a Tuned Radio Frequency set there is a remarkable improvement in sensitivity and selectivity. When it is used with a Superheterodyne there is a pronounced decrease of noise and a decided increase of signal strength.

Appearance



Although efficiency and not appearance is the prime requisite for precision short-wave equipment the Postal Booster boasts of BOTH.

Housed in a sturdy crystalline finished black metal cabinet. Two black dignified control knobs, a twin drawer plug-in coil as well as a handsome illuminated aeroplane dial give the new Postal Booster a pronouncedly distinguished and pleasing appearance.

Weights 12 pounds and measures 9½" tall, 8½" wide and 6" deep.

Complete



Only precision engineering and skilled mechanical design provides for the production of this highly efficient Booster as one compact unit, containing within itself two stages of tuned radio frequency amplification and its own AC-DC power supply.

The attainments of extreme compactness and complete shielding plus the use of four soft rubber cushioned feet permits it to be placed atop or alongside of your short wave receiver, or on a small shelf or occasionable table.

Self-Powered



The Postal Booster furnishes its own power for the most efficient operation of its two R. F. amplifier stages.

This feature eliminates the necessity for drawing current from the S. W. receiver — a condition which usually overloads the power supply of the set, upsets circuit balances and lowers the voltage throughout the receiver.

The power supply circuit works equally well from AC or DC. Models available for 2 volt air cell, 6 volt battery or 32 volt operation.

A Profitable

When you purchase the Postal Booster you are making a LIFE TIME INVESTMENT.....because you can always improve any receiver with this effective unit.

Not only will it improve the performance of some receiver that you may purchase in the future, but it may save the cost of a new receiver, for by connecting this unit to your present S. W. set you automatically change it into an ultra-modern S. W. receiver with all the sensitivity, selectivity and noiseless reception of the most expensive S.W. set.

Humless



The Postal Booster may be noiselessly operated at highest efficiency from any power supply source; 110 or 220 volt AC or DC or from "A" and "B" batteries.

The self-contained power unit employs a 25Z5 rectifier and a series of R. F. and A. F. filters for the removal of line noise, "tunable hums", and similar disturbances.

A carefully balanced and tuned filter circuit is now also employed for the complete suppression of 60 and 120 cycles ripples.

Investment



The Selling Sensation!



Now You Can Bring The
World Into Your Home
with the Postal Booster

Like everyone who first hears his short wave receiver with the new Postal Booster, you will marvel at the new life of your set — increased volume — more stations — less noise — no repeat spots — no interference.

As for actual performance, weak foreign amateur and broadcast stations at ac-

cessive speaker volume are easy as "falling off a log" for receivers operating in conjunction with the Postal Booster.

Once you hear what this Booster and your present short wave set can bring in, you will forget about purchasing an expensive receiver.