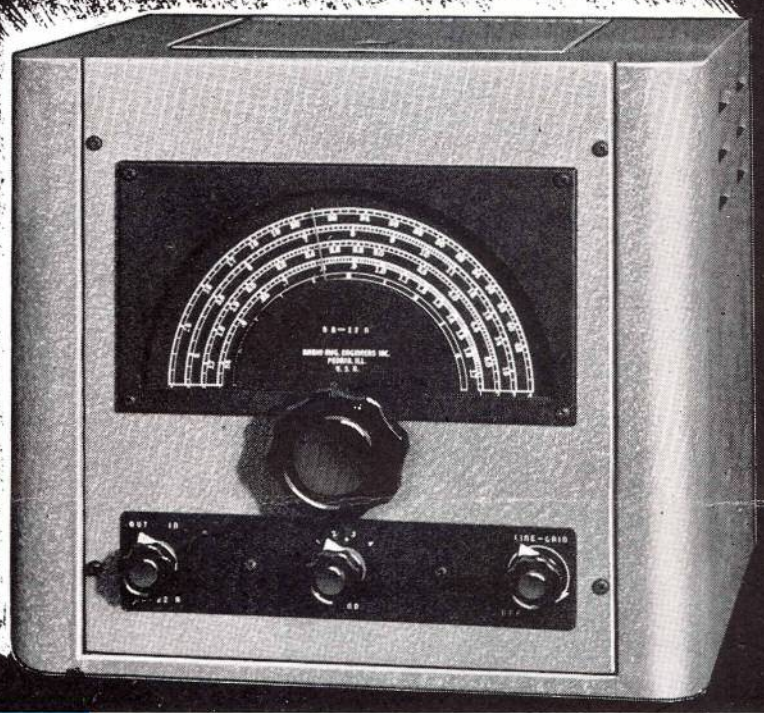
RME EQUIPMENT RELEASE No. 126

RME SINCE 1933

The DB 22A Preselector

Here's the new DB22A completely re-designed for greater efficiency and higher signal to noise ratio. It uses two of the new efficient 6BA6 miniature tubes. The DB22A provides tremendous increase in both gain and selectivity when used with a good communications receiver. Average over-all gain is 30 db achieved throughout the tuning range of .54 to 44 Mc. Image ratio is phenomenal — better than 50 DB with a communications receiver having a single stage of RF. The DB22A is entirely self contained — entirely in a class by itself!



The DB22A delivers true preselection — optimum gain with best possible signal to noise ratio and image rejection. Frequency coverage is from .54 to 44 Mc, coinciding with the range incorporated in many communications receivers. The DB22A has its own power supply. Connect the unit to your receiver just like an antenna — no wiring — no plug in coils are required.

When the original preselector was announced it was described as a "signal intensifier" and "image rejector". The engineers at RME realized then that under certain conditions one stage or two stages of RF amplification are not enough to maintain the necessary standard of signal to noise and signal to image ratio. Most communications receivers have but one stage of RF amplification which is insufficient for good image rejection on the high frequencies. The preselector, as designed by RME, overcomes the image problem.

During the past years these facts have been proved again and again — with the result that many thousands of preselectors are now in use all over the world.

The new model DB22A Preselector, which has been completely re-engineered, has many design refinements and is housed in a new streamlined cabinet. The two-tone gray crackle of the cabinet matches the finish of current RME receivers.

A large 7" dial scale is used, with dull black background and white numerals, indirectly illuminated, pointer operated through planetary drive mechanism, assuring ease of control operation and plenty of drive ratio.

Built and designed for optimum RF amplification, signals take on a new significance when passing through this unit. It provides true preselection with best possible signal to noise ratio obtainable. The DB22A Preselector is a compact, efficient unit, designed as a straight radio frequency amplifier with a specified range of input and output impedances.

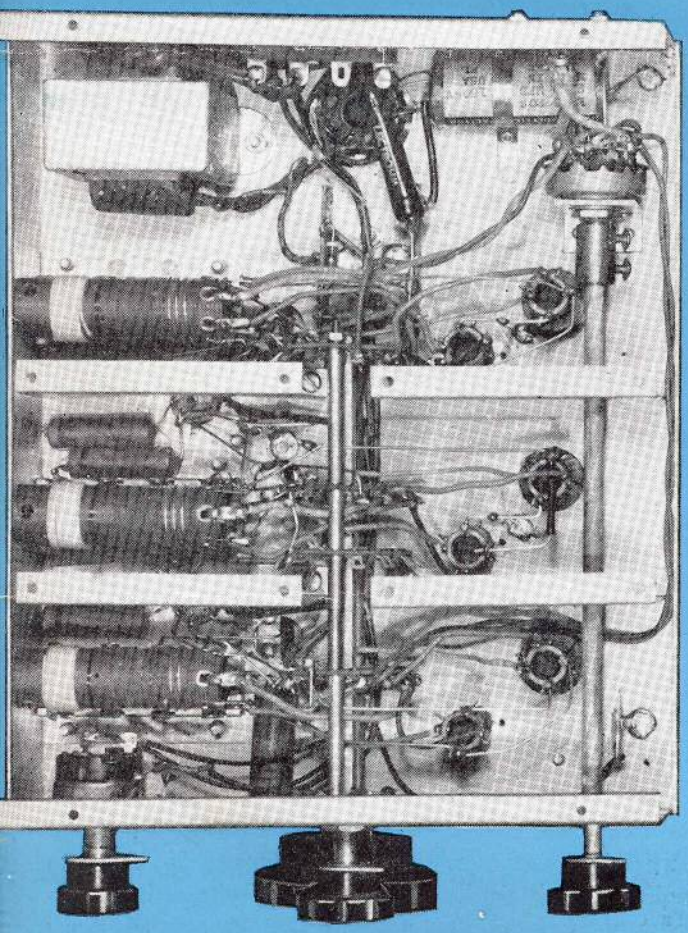
The DB 22A Preselector

MATCHED CIRCUITS

The input circuit is of the typical matched doublet type plus a single wire to ground arrangement, permitting high gain matching to any antenna. The output circuit is of low impedance, 150 to 350 ohms, equipped with an output plug and line for direct connection to the input circuit of your receiver, i.e. the antenna posts. With this complete matching, the use of the Preselector between the antenna and receiver causes no mismatch in coupling. The output of the DB22A is fed to the receiver by a shielded connecting link. An antenna change-over switch, incorporated on the front panel, allows the receiving antenna to be coupled to the receiver directly when the Preselector is not in use.

IMAGE REJECTION

Images, especially on ten meters, but also on twenty meters, have for a long time prevented 100 per cent QSO's. Not so with the DB22A. The signal to image ratio obtained by using the DB22A with a good communications receiver employing one stage of RF amplification is greater than 50 db at 28 mc. This means that for practical operating purposes, images on ten meters are eliminated.



BOTTOM VIEW OF DB22A

INDIVIDUAL POWER SUPPLY

The DB22A has its own power supply, not depending on the power from your receiver. A 6 X 4 rectifier is used. Two 6BA6 miniatures are employed. Being remarkably stable, the Preselector provides an average over-all gain of 30 db throughout its range — a tremendous increase in both gain and selectivity!

OTHER FEATURES

The DB22A incorporates three tuned circuits using components of the highest quality. mechanically and electrically.

The range of the DB22A is covered in four bands. A four position switch operating in conjunction with the four numbered bands on the dial scale provides easy frequency selection.

The unit has its own gain control in addition to the regular four band switch and finger-tip control planetary tuning mechanism.

The cabinet is finished in attractive gray crackle finish and matches current RME receiver cabinets in every detail. The entire unit is rigidly built and tested to exacting RME specifications.

If you wish to boost your signal strength or eliminate the image response of your present reception, the DB22A is the perfect solution. Your regular RME distributor will be glad to give you further details.

Model DB22A Preselector, Standard Model, CODE BONET, in cabinet to match RME 45 Receiver in appearance. Dimensions: 11" high, 12" wide, 11" deep. Amateur Net Price $66.00.

Model DB22A - Type S Preselector, CODE CLEAR, in cabinet to match RME 84 Receiver in appearance. Dimensions: 9⅛" high, 10¼" wide, 10¼" deep. Amateur Net Price $66.00.

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FINE COMMUNICATIONS EQUIPMENT
RADIO MFG. ENGINEERS, INC.
Peoria 6, Illinois U. S. A.
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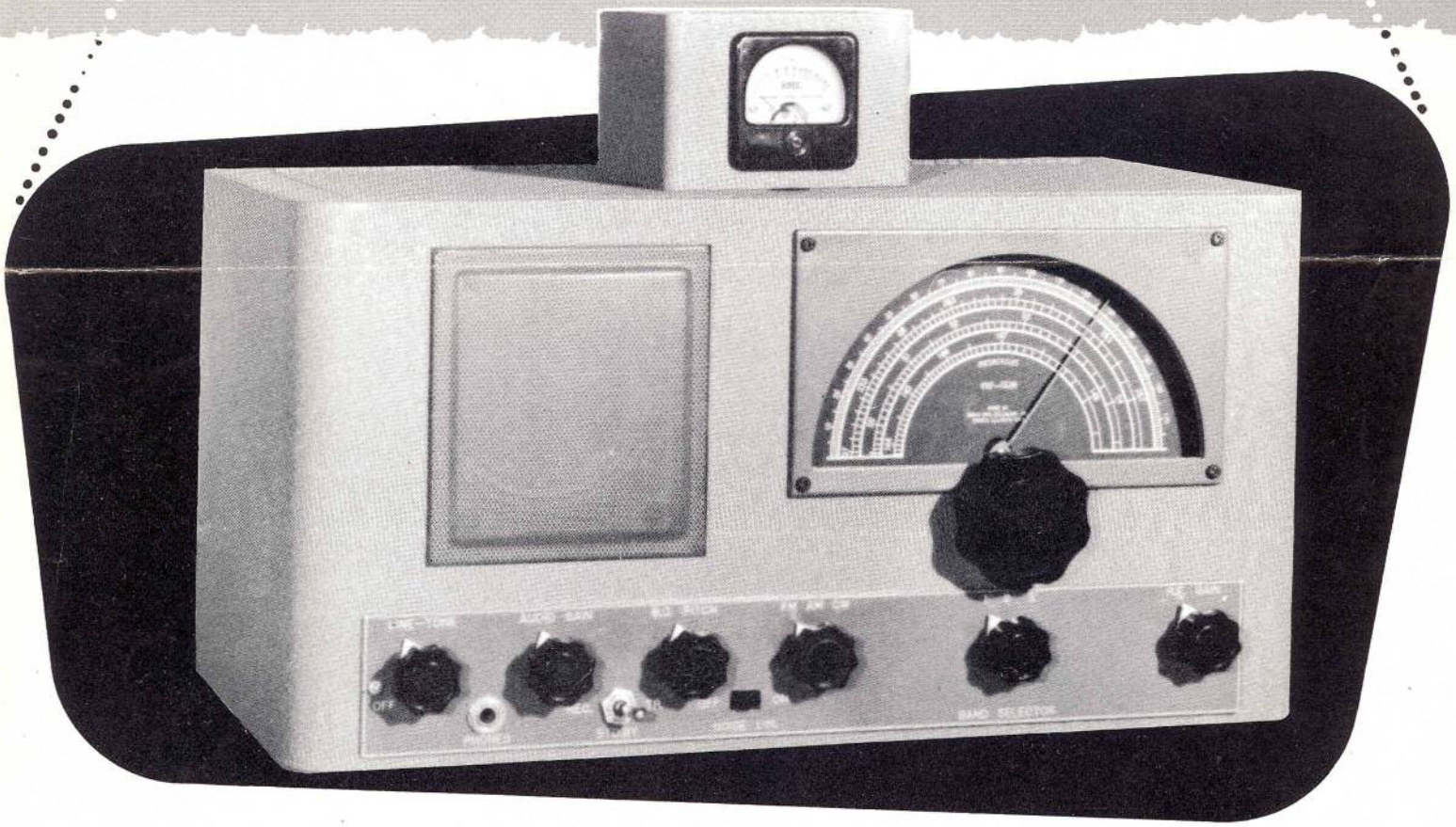
RME EQUIPMENT RELEASE NO. 160

RME SINCE 1933

The RME VHF 2-11 *"Compact"*



A Complete VHF Receiver for both AM and NFM to cover the Amateur Bands in the TWO, SIX, TEN AND ELEVEN METER RANGE. All in one package including the speaker and power supply.

Here is a modern, 1948, receiver for the high frequency amateur and listener which has been designed as a **complete** receiver in one small cabinet. Nothing that is essential was left out. It occupies a very small space on the table or bench and gives performance outstripping anything designed for the purpose.

The essential features, both mechanical and electrical, are best outlined as follows:

CALIBRATION: The semi-circular scale is on a seven inch radius, calibrated in megacycles and fractions. An indirectly illuminated black background with white figures make easy reading possible. Accuracy of calibration is assured through complete temperature compensation on all bands.

TUNING CONTROL: A smooth, positive combination ball planetary and loaded gear arrangement provides the fine control necessary in high frequency equipment.

The RME VHF 2-11 *"Compact"*

SENSITIVITY: Less that one microvolt R.F. carrier with 30% amplitude modulation, or a plus-or-minus 2 KC FM carrier will provide 50 milliwatts of audio frequency output.

I.F. SYSTEM: Built into the receiver is a double I.F. system, providing double conversion for both high image reduction and adjacent channel selectivity. The first channel functions at 7 mc and the second at 455 KC.

C.W. RECEPTION: A built-in beat oscillator with a pitch control mounted on the front panel makes CW operation easy and practical.

AUDIO SYSTEM: Controlled frequency characteristics are utilized for high voice intelligibility. A power type beam pentode output drives the built-in dynamic speaker. For those wishing to use headphones a panel jack is provided.

NOISE REDUCTION: In the noise limiter circuit, embodied in the third detector, practical elimination of auto ignition interference and other similar pulse type disturbances is provided automatically. This series type limiter is one of the best used in radio communications receivers of today.

NARROW BAND FM CIRCUIT: The NFM circuit utilizes a limiter-driver stage together with a ratio detector for maximum FM sensitivity as well as noise quieting on FM signals. A switch mounted on the front panel makes instant shifting to NFM possible. For amateur operation on narrow band FM this circuit gives superior performance.

FREQUENCY RANGE: The range covered, namely 2, 6, 10 and 11 meters, is shown on three separate bands. Band one: 27 mc to 29.7 mc. Band two: 50 mc to 54 mc. Band three: 144 mc to 148 mc.

TYPE OF SIGNALS RECEIVED: AM; NFM; MCW; CW; ICW.

PANEL CONTROLS: AC Line Switch-Tone Control; Audio Gain Control; BFO Pitch Control; FM-AM-CW Switch; Standby-Trans-Rec. Switch; ANL On-Off Switch; Band Selector Switch; R.F. Gain Control; Tuning Control; Phone Jack.

TUBES: Eleven tubes plus Rectifier and Voltage Regulator as follows:

1-6AK5 R.F. Amplifier	1-6G6G Audio output
1-6J6 1st Osc. Mixer	1-6BA6 FM Limiter
1-6BE6 2nd Osc. Mixer	1-6AL5 FM Detector
1-6BA6 1st I.F.	1-6BA6 BF Osc. Meter Tube
1-6BA6 2nd I.F.	1-5Y3GT Rectifier
1-6AL5 Det. Noise Lim.	1-VR-150 Voltage Reg.
1-6AU6 1st Audio Amp.	

CABINET: Finished in two-tone grey, of rugged construction with hinged top lid, mounted on rubber feet. Overall dimensions: 9-1-4" high, 18" wide, 10-1-2" deep.

POWER INPUT: 115 Volts, 50-60 cycles, 68 watts total. Also available on special order for 115-230 Volts, 25-60 cycle operation.

"COMPACT," CODE: COMPT, shipping weight 30 lbs., less meter, Net Price..... **$146.00**

CM-2, CODE: CANS, Carrier level S meter, weight 2 lbs., Net Price..... **$14.00**

Litho. in U.S.A.

EQUIPMENT RELEASE BULLETIN NO. 150

SINCE 1933

FINE COMMUNICATIONS EQUIPMENT
RADIO MFG. ENGINEERS, INC.
Peoria 6, Illinois U. S. A.

NARROW BAND FM and AM
either one with a flip of the switch.

The NBF-4 unit consists of a small chassis which has been designed to plug into the 7A6 2nd detector socket on the Model RME-45 communications receiver. When this is done, the RME-45 receiver becomes a far more versatile instrument, since it will receive either amplitude modulated, AM, signals or narrow band frequency modulated, NFM, signals. Selection of the particular type of modulation is determined by means of a single pole double throw switch mounted conveniently on the front panel. The NBF-4 chassis contains all of the necessary circuits for both types of detection and the receiver sensitivity for AM and NFM is identical.

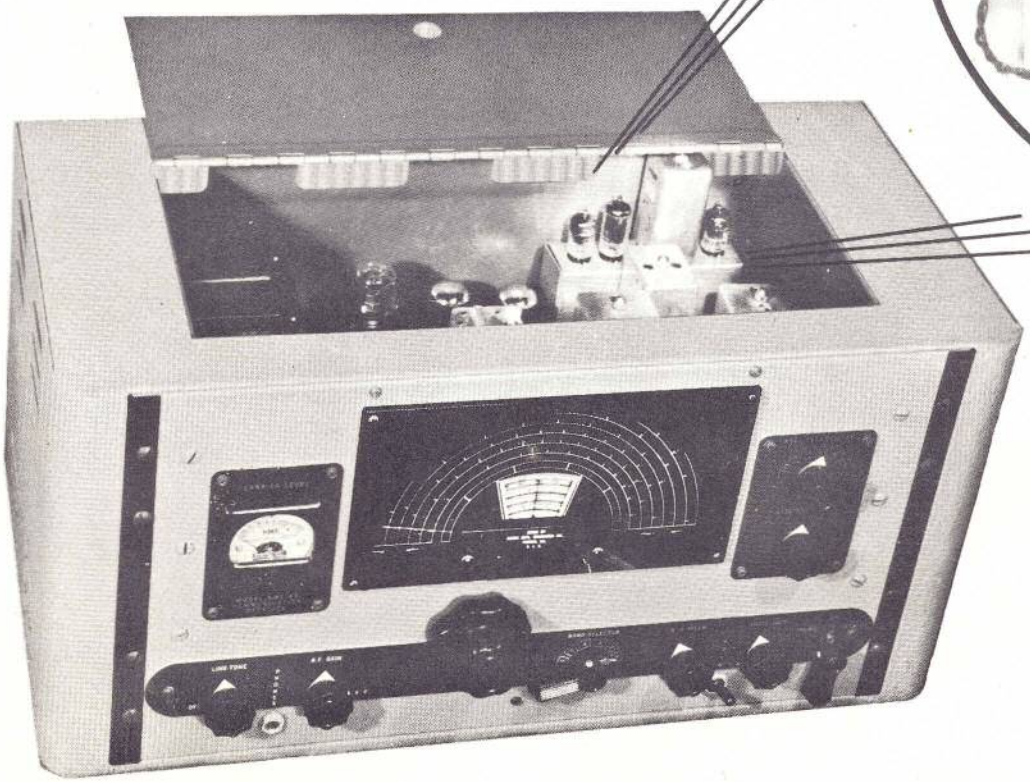
The circuit consists of a standard diode detector and a series noise limiter for AM reception, identical to that used in the regular model RME-45 receiver. For NFM reception, a limiter and a ratio detector are provided and the NFM circuit is designed for an FM band of 6 KC (equivalent to plus or minus 3 KC frequency deviation of the transmitter). Thus a real FM receiving system tailored to amateur values of frequency swing is provided, resulting in true noise-free FM reception. You will be surprised at the quality of the FM signals and the freedom from noise on the carrier which results. It is possible to receive, with good clarity, NFM signals which would not be intelligible if they were amplitude modulated at the same carrier level because of the degree of noise reduction provided for.

The chassis contains 3 tubes; 1 type 6BA6 limiter amplifier, and 2 type 6AL5 double diode tubes which serve as AM detector, FM ratio detector, and AM noise limiter.

For all model RME-45 receivers, when ordered from current production, the NBF-4 unit can be supplied, installed at the factory. For all model RME-45 receivers which have serial numbers ending with the letter 'B', the unit can be installed without any wiring changes in the receiver. For older model RME-45 receivers, those with serial numbers ending with 'A' or without any letter suffix to the serial number, the unit can be installed after minor changes are made in the 2nd detector and noise limiter circuits. For these models, installation can be made at the factory or at authorized service centers for a nominal charge.

Full instructions for installation are furnished with each unit. The installation is simple, since the unit is designed to fit into the space provided for.

Owners of RME equipment again benefit through RME engineering. Seldom is an RME receiver made obsolete because of alterations or additions to amateur regulations by the FCC. You can always be up-to-date at nominal cost. It PAYS to own RME equipment.



NBF-4 RATIO DETECTOR plug-in unit complete with installation instructions.
CODE: NARBO. . Amateur net $19.50

RME-45 Receiver, complete with NBF-4 unit built in, including speaker, for 115 volt, 60 cycle operation.
CODE: NIMBO. . Amateur net $218.20

Factory installation charge on NBF-4 ratio detector on other than Model B RME-45 receivers. . . . . Net $6.50 (see text)

RME EQUIPMENT RELEASE NO. 155

RME SINCE 1933

The RME MB-3 *Boomerang*

A BREAK-IN DEVICE

A SIGNAL MONITOR

A CODE PRACTICE UNIT

A TONE MODULATOR FOR MCW

ALL IN ONE INSTRUMENT

If you want to listen to your own keying, if you want to operate a station for rapid and efficient break-in, if you want to avoid needless QRM, the RME "BOOMERANG" is the solution. The unit produces a clear crisp tone, no matter how fast the key is operated. Dots and dashes are heard in the headphones or the speaker while you are sending—a great help in perfecting the fist and avoiding errors.

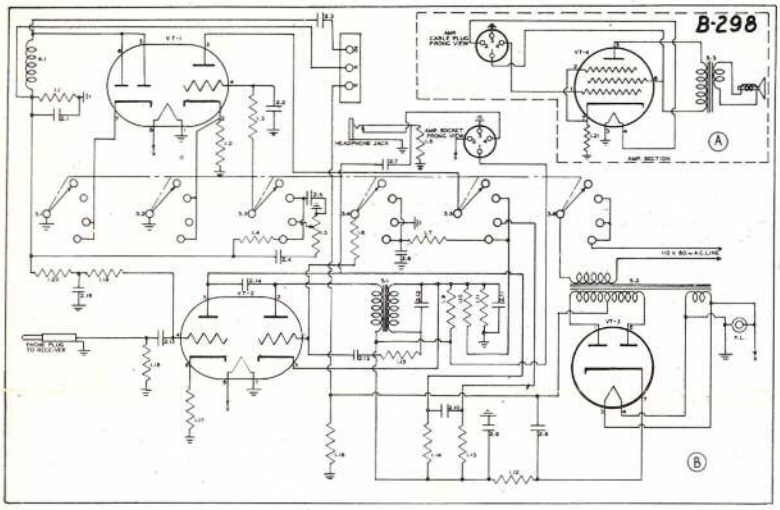
SIMPLE TO CONNECT AND TO OPERATE

1. Insert the plug attached to the cord into the headphone jack of your receiver.
2. Plug the line cord into the regular 115 volt 50-60 cycle power supply.
3. Couple a short length of wire to some low voltage oscillator or buffer stage of your transmitter through approximately a 3 mmfd condenser and connect this wire to the input terminal of the "BOOMERANG."
4. Select the proper position on the dial and you are ready to go. The power required to operate the "BOOMERANG" is less than .03 watt and will, therefore, not affect even the lowest flea power transmitter. It is this radio frequency energy received from the transmitter and coupled to the instrument which controls the monitoring function and also the break-in facility of the "BOOMERANG".

A BREAK-IN DEVICE THAT REALLY WORKS

When the key is down, any signal normally going through the receiver is automatically suppressed. Raise the key and instantaneously the receiver functions. Even between the dots

The RME MB-3 *Boomerang*



and dashes of keying, it is possible to monitor the band and to hear the break-in of the other station. This makes possible the speeding up of QSO's. And another advantage: you may now operate your station without being covered up at the wrong time or completely losing your contact. Turn the QSO over at times when QRM is minimum.

A HANDY MONITOR FOR PHONE OPERATION

Although not provided with a voice operated relay, the "BOOMERANG" nevertheless serves as a continuous monitor of the modulated carrier, at the same time suppressing the received signal when the transmitter is turned on. This serves as a constant check on the operation of the phone transmitter and its quality, also obviates the necessity for any auxiliary switching or throwing of relays for "stand-by" operation of the receiver during periods of transmission.

THE MB-3 USED AS A CODE PRACTICE OSCILLATOR

With a switch position provided on the "BOOMERANG" to disconnect the break-in stand-by feature of the unit, it is also possible to have the transmitter operating and yet not disable the receiver. In this way, duplex operation can be carried on without turning off the "BOOMERANG" power supply or disconnecting it from the receiver. This additional switch position was provided solely for the convenience of the operator. What the MB-3 unit actually provides when the switch is in the "stand-by" position can be ascertained by connecting a key to the two terminals on the rear of the unit. Operating the key will give a distinct note in the headphones which consequently serves as a code practice device and may be used without any dangerous voltages being present at any of the exposed terminals.

A TONE MODULATOR FOR YOUR PHONE TRANSMITTER

Certain frequency ranges in the amateur bands permit MCW operation. When this is desired, all that the operator has to do is feed the output of the MB-3 "BOOMERANG" from the headphone jack into the speech amplifier of the transmitter, connect a key across the key terminals and set the switch control to the "stand-by" position. A clear, crisp audio tone is produced which will always command a Q-5 report.

OTHER VALUABLE USES FOR THE MB-3 "BOOMERANG"

Whenever a good sharp audio tone is needed or desired, such as testing audio systems, measuring gains in audio amplifiers, checking circuits where an audio tone is wanted, the "BOOMERANG" serves as a valuable tool. Many applications will suggest themselves to a radio man once he becomes accustomed to its functions. It is simple to operate and one of the best instruments for the money to be found in any ham station.

NET PRICE [redacted] **$27.50** Litho. in U. S. A.

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FINE COMMUNICATIONS EQUIPMENT
RADIO MFG. ENGINEERS, INC.
Peoria 6, Illinois U. S. A.
RME SINCE 1933

Two MOBILE CONVERTERS by RME

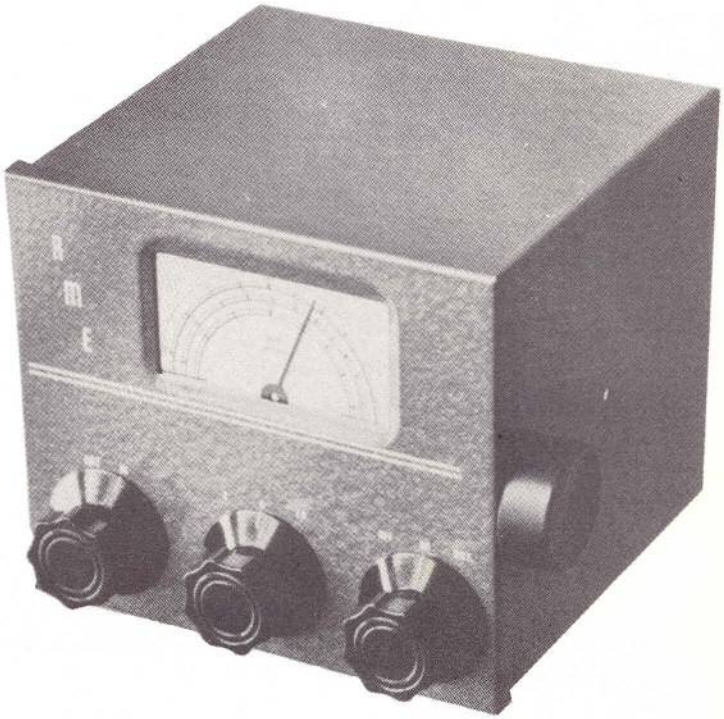
The MC-53

FOR 2, 6, 10 AND 11 METERS

The MC-H4

FOR 10, 20 AND 75 METERS

EACH A SMALL-TUBE, COMPACT, HIGHLY EFFICIENT UNIT, READY TO DO A BANG-UP JOB IN THAT MOBILE INSTALLATION OF YOURS.



MC-53 MOBILE CONVERTER for 2, 6, and 10-11 meters

The ever increasing demand for mobile equipment and the desire to have portable mobile equipment available for emergency use, which is uniform in performance and operation, has prompted RME to add a mobile converter to the universally popular and efficient line of other converters; namely, the VHF 152A and the HF 10-20.

The MC-53 covers three frequency ranges: 26.5-30MC, 49.5-54.5 MC and 143.5-149 MC. Each range has its own individual coaxial input connector at an input impedance of 75 ohms. Individual antennas may, therefore, be used for each frequency range and coupled separately. The output cable of the MC-53 converter is connected to the auto-radio antenna socket, the output frequency being 1550 KC into the conventional radio receiver of the car. With an antenna change-over switch in the converter and a separate input connector provided for broadcast reception, the MC-53 may be cut in or out of the antenna circuit at anytime for either high frequency or broadcast reception with a flip of the switch.

The MC-53 requires 150-180 volts at 25 milliamps, which is available from the car radio power supply. The ON-OFF switch has a third position, marked BATT. A separate lead is provided on the converter which may be connected to an auxiliary 6 volt source and give high-stability operation independent of the car battery voltage. A dry battery source may be employed, since only 150 milliamps are required to heat the oscillator tube heater, and the dry batteries will last a long time. Such operation is optional with the operator.

The tuning mechanism consists of a high ratio worm-gear drive, very rugged and stable. The main tuning knob is located on the side of the cabinet.

An automatic noise clipper circuit is incorporated in the MC-53 as an integral part of the unit. It is mounted on the converter chassis and comes complete with an interconnecting cable to be hooked up with the car radio. The tube complement is as follows: 6AL5 clipper; 6AK5 rf amplifier; 12AT7 detector and oscillator; 6BJ6 if amplifier; OB2 voltage regulator.

Overall size of the cabinet 5¾" wide, 4⅞" high, 5¼" deep. Finished in dark grey enamel, weight 5 lbs. Complete with tubes and cables, CODE MONCO.

Radio amateurs are given a responsibility, as licensed operators, to be available for any emergency as it might arise. To render service in the field of communication is one of the high privileges given the amateur operator with his assigned call. Portable mobile communication is not only desirable on field days, vacation trips, hamfests and week-end outings, but a distinct necessity in case of disasters, and in civil defense network practices. All amateurs should be prepared to go on the air with mobile equipment. And when the call comes: BE READY!

MC-H4 MOBILE CONVERTER

The MC-H4 converter is contained in the same size cabinet as the MC-53, and is very similar in design and construction. It covers the 3.5 to 4 mc., the 14 to 14.4 mc., and the 26.5 to 30 mc. ranges in three bands.

This high frequency mobile unit has an overall gain of approximately 18 db, so that when connected to a standard car radio having a 10 microvolt sensitivity, the overall sensitivity is of the order of 1.25 microvolts. This compares very favorably with many fixed amateur station receivers and receiving equipment. The conversion frequency is set at 1550 KC.

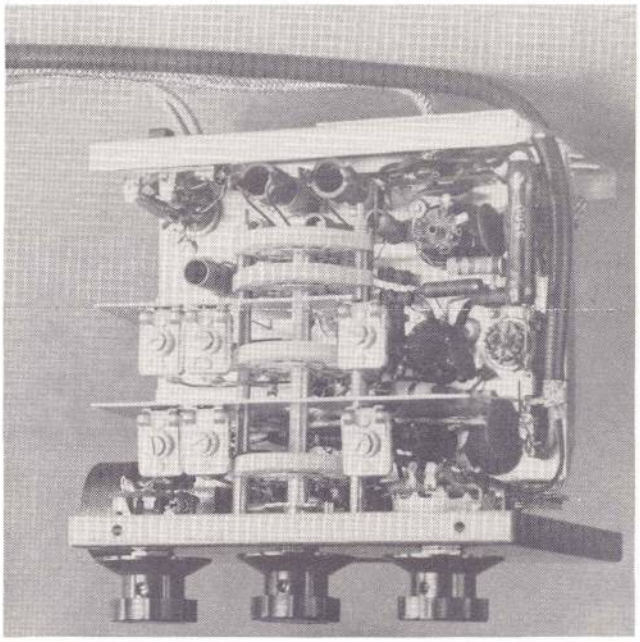
The tuning control at the right side of the MC-H4 operates a 25 to 1 anti-backlash worm gear drive, which gives smooth and uniform adjustment of the frequency ranges incorporated in the unit. The scale is made of transparent plastic material, direct reading pointer position, and side-lighted.

Each band has its own antenna connection through standard auto-radio connectors located in the rear of the converter. Selection is made by means of the antenna change-over switch on the front panel. The input impedances are variable from 50 to 72 ohms. In addition to the regular voltage output cable for the power supply, provision is made for a separate auxiliary battery connection to the heater of the oscillator, so that high frequency stability may be assured in cases where auto battery voltages may vary due to poor generator regulation.

Another important feature BUILT INTO the converter, and located in one corner of the chassis, is an automatic noise limiter circuit which may be connected to the receiver through separate shielded cable connections. This 6AL5 clipper circuit is controlled by operating the slide switch on the rear of the converter cabinet.

For MAXIMUM stability, the MC-H4 utilizes a special oscillator circuit. Such desirable features make the MC-H4 mobile converter outstanding.

Tubes used are as follows: 6AL5 clipper; 6BJ6 rf amplifier; 6BJ6 if amplifier; 12AT7 detector and oscillator. Cabinet size, finish and weight is the same as for the MC-53 mobile converter. Comes complete with tubes and necessary cables, CODE MASCOT.



A look inside shows the rigid construction and the compactness of the RME mobile converters now available. (Views are of the MC-53 vhf unit)